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Address.

OPENING ADDRESS TO THE SECTION OF PRACTICE OF MEDICINE, MATERIA MEDICA, AND PHYSIOLOGY.[1]

BY FREDERICK C. SHATTUCK, M.D., CHAIRMAN OF THE SECTION.

In obedience to the rule of the association that the chairman of each section shall review the progress which the year has brought in those subjects which immediately concern his section, I ask your attention to a very brief consideration of a few of the large number of topics which might worthily find notice here. The practice of medicine, materia medica, and physiology include so much, the workers are so many, and the fruits of their labors are so varied and abundant that the difficulty of selection is itself an embarrassment.

The grass had scarcely grown on the grave of the treatment of pulmonary tuberculosis by gaseous enemata before another curative method was advocated by Weigert,[2] Halter,[3] and Krull,[4] a method which would seem at first sight to have claims to be called curative in that it is designed to remove the cause of the disease by destroying the bacilli *in situ*. We know that the development of this particular microbe is arrested at a temperature of 107° F.; and if, then, the intra-pulmonary temperature can be raised to or above this point and there maintained for a time, the happiest results must follow. I can confirm the statements of the originators of this method as to the ability of patients to breathe with impunity air at a surprisingly high temperature. I have myself inhaled it at 320° F., and seen patients inhale it at 428° F. without notable inconvenience. Nearly six months ago Dr. G. G. Sears, of Boston, began to practise inhalations of hot air on some of my patients in the House of the Good Samaritan. His results are now ready for publication, and it will suffice to say here that an apparatus was used devised by Mr. G. L. Kingsley, of the Harvard Medical School, an apparatus which can be made by any copper-smith for $5, — that patented by Weigert costs in this country $75, — and that we are satisfied that the problem of intra-pulmonary direct germicidal action is still unsolved.

The pancreas, an organ the diseases of which have been until recently of pathological rather than clinical interest, is being dragged from obscurity. Senn's work on cysts of the pancreas is followed up by Fitz,[5] who has collected seventy cases of the several forms of acute inflammation of the organ and subjected them to a rigid analysis which yields a notable increase to our knowledge. A frequent cause of acute pancreatitis seems to be the extension of an inflammation from the duodenum into the pancreatic duct and thence to the interstitial tissue of the organ; which tissue stands in such relation to the peritoneum, the retroperitoneal and retropancreatic fat tissues, as to permit the ready passage of bacteria, and thus account for the peritonitis and disseminated fat-necrosis so often resulting from pancreatic inflammation. Inflammation of this organ is doubtless much more common than has hithero been generally supposed, and is not impossible of diagnosis. The affections with which it is most likely to be confounded are irritant poisoning, perforating gastric or duodenal ulcer, perforation from gall-stones, and acute intestinal obstruction. The first three can be excluded by the history of the case and the associated symptoms; the last by determining the patency of the large intestine through injection, by the seat of the pain and tenderness in the upper abdomen, and by the absence of marked tympanites. I trust that I may be pardoned here for bringing in my own personal experience, which I do with the less hesitation inasmuch as it is not especially to my credit. It was my lot during the past winter to be one of six physicians and surgeons at a consultation: four of us considered the case as probably acute intestinal obstruction, one inclined to perforation, while Dr. Fitz alone held that it was acute pancreatitis and advised against operation. Laparotomy was done, no obstruction was found, multiple fat-necrosis was seen in the omentum, and the autopsy revealed acute hæmorrhagic pancreatitis.

Frerichs long ago noticed the frequency of atrophy of the pancreas in diabetes mellitus; and Lancereaux,[6] in a recent and important paper, calls attention to the relation between these conditions, based on twenty cases which he has seen, with post-mortem verification in fourteen of these. Pancreatic diabetes, in contradistinction from the other forms of the affection, is characterized by sudden onset, rapid course, and severity of the symptoms with great emaciation. In two of the cases, by the way, epigastric colic led to the diagnosis of pancreatic calculus, and the autopsies brought justification.

Here we may allude to the experiments of Pavloff and Smirnoff,[7] which show that in rabbits whose pancreatic ducts have been ligated regeneration of the gland may take place after a new and spontaneous communication with the intestine has been formed.

The much-vexed question as to the nature of diabetic coma, with the indications for the liability of its occurrence in any particular case and the means for its relief, are ably considered by Kirstein,[8] who details the steps through which our present knowledge has been attained. In certain cases of diabetes the organism seems to have lost the power of burning the fatty acids, largely oxybutyric acid, to their normal end products. These cases are characterized by a large increase in the amount of ammonia in the urine rather than by any striking symptoms or complex of symptoms, and these are the cases in which coma is to be dreaded; this form of coma being the result of the formation of larger amounts of free acid than can be neutralized by the ammonia which the organism is capable of supplying, the consequent abstraction from the blood of the fixed alkalies, and thus toxæmia. The quantitive estimation of ammonia in the urine of diabetics is consequently of great importance therapeutically, as well as for prognosis; but, unfortunately, a method for this estimation, readily applicable to clinical purposes, is still lacking. When this

[1] American Medical Association, Newport, R. I., Tuesday, June 25, 1889.
[2] New York Medical Record, 1888, ii. p. 693.
[3] Berl. klin. Wochenschrift, 1888, Nos. 36-38.
[4] Berl. klin. Wochenschrift, 1888, No 39.
[5] The Middleton-Goldsmith Lecture for 1889. Boston Medical and Surgical Journal, 1889, p. 181, 205, 229.
[6] Bull. de l'Acad. de Médecine, 1888, Tom. xix. 3ème Série, p. 558.
[7] Lancet, 1889, i. p. 990.
[8] Deutsch. Med. Wochenschrift, April 11, 1889.

large excess of ammonia is found the indications are to restrict the acid rather than the sugar-forming foods, — meats, for instance, — and to give alkalies freely. On the advent of the peculiar dyspnœa, which is apt to be the first symptom of coma, alkaline intravenous injection is to be practised, as has already been done in a small number of cases, Minkowski alone having saved his patient.

The diseases of the blood have been studied by Graeber, Hunter, and others. According to Graeber,[9] anæmia, chlorosis, and pernicious anæmia are distinguishable from one another by a count of the red corpuscles and an hæmoglobin estimation. Hunter[10] argues to show that pernicious anæmia is an entity, pathological and clinical; depends on increased blood destruction, probably in the liver; and is to be differentiated from all secondary grave anæmias, as, for instance, those of cancer and intestinal parasites, as well as from all other primary anæmias, by the greatly increased amount of blood pigment, responding to the micro-chemical tests for iron, found in the liver in this affection. The spleen contains no such excess of iron as does the liver, and in the latter organ the seat of the pigment is chiefly the outer portions and cells of the lobules, not the capillaries, a fact which goes to show that the blood destruction takes place in the liver itself, the pigment entering the cells in soluble form — hæmoglobin — and there undergoing conversion into albuminate of iron. In all cases where the blood destruction takes place elsewhere than in the liver, and pigment is deposited in that organ, it accumulates in and about the capillaries.

A paper of MacMunn,[11] of Wolverhampton, on Addison's disease is noteworthy. He has studied the adrenals and urine of patients with this disease spectroscopically; and, reviewing our knowledge of the subject, concludes that the function of the adrenal bodies is the removal from the circulation of worn-out pigments and their accompanying proteids. "When the adrenals are diseased, these effete pigments and effete proteids circulate in the blood; the former, or their incomplete metabolites, producing pigmentation of the skin and mucous membrane, and appearing often in the urine as urohæmatoporphyrin; the latter producing toxic effects, and leading to further deterioration of the blood with its consequences."

During the past year the internal antipyretics have continued to seek their level. It is seen that they exert no curative influence on specific febrile processes; and, as we recognize more and more clearly that even continued fever is not productive of the changes in the parenchymatous organs with which we credited it of late years, but that the danger in these processes lies rather in the effects of toxic alkaloids on the nervous centres than in temperature elevation,—as we recognize this fact we appreciate how irrational it is to address our therapeusis chiefly to pyrexia. When the fever is in itself productive of discomfort to the patient the internal antipyretics are useful; but the indications seem to me, at least, strong that the antineuralgic and analgesic will survive the antipyretic application of this class of drugs. On the other hand, it seems probable that the cold bath treatment of continued, and especially of typhoid, fever must be adopted and conscientiously carried out in this country. As the principles of Brand's method gain headway in France, a country not prejudiced in favor of German leadership; as Brand's results are confirmed by other observers and in other countries; and in the face of such statistics as are put into our language by H. C. Wood,[12] Wilson,[13] and Baruch,[14] — it is difficult to see how a people which prides itself on its wealth, general intelligence, and practical qualities can be longer deterred by scepticism, or motives of convenience and economy, from the adoption of a method of treatment which reduces the mortality of typhoid fever to 3%.

The hypnotics sulphonal and amylene hydrate have come into more general use, and prove themselves to be valuable additions to our list of remedies of this class. Unpleasant effects seem rare, while the slow absorption of the one and the rapid action of the other gives each a place.

The treatment of locomotor ataxia by suspension (accidentally hit upon by Motchonkowsky of Odessa, who was struck by the benefit derived by a tabetic patient, also suffering from spinal curvature, after the suspension required in applying a plaster jacket) has spread with great rapidity, and is being thoroughly tested in this as well as in other countries. It is still too early to determine how useful it will prove to an unfortunate class of patients.

At our meeting in Cincinnati last year a discussion took place on the modern methods of diagnosis in diseases of the stomach, and high hopes were expressed that by the examination of the gastric contents an ease and certainty of diagnosis in these affections is almost within our reach, comparable to that which urinary analysis yields in renal disease. The more carefully the question is studied the greater is the demand for yet further study, and the more clearly does the necessity appear for the exercise of great caution in the formation of definite conclusions at present. In the first place, it is now seen that the only single test for hydrochloric acid which has a real clinical value is the phloroglucin-vanillin; the tropæolin, congo red, methyl violet, and other tests either reacting to other acids or acid salts, or being often prevented from reacting by albuminoids, even when free hydrochloric acid is present. Secondly, it gradually appears that it is not safe to base a diagnosis of gastric cancer on even the persistent absence of this acid from the gastric contents withdrawn an hour after a test meal. Such absence is indicative of notable impairment of the functional activity of the mucous membrane, as from a severe catarrhal condition; or of extensive destruction of the secretory glands of the stomach, largely irrespective of the cause of the destruction. Thus, in a case of cancer sharply localized and unaccompanied by catarrh to any marked degree, free hydrochloric acid may be found in sufficient amount until the cachexia is well advanced. On the other hand, in severe but simple catarrh, especially if attended by the formation of much mucus; in atrophy of the gastric tubules; in amyloid disease of the organ; after strong caustics have done their work; even

[9] Fortschritte der Medicin, July 15, 1888.
[10] Practitioner, Aug. 1888, and Lancet, 1888, Sept. 22 and 29, Oct. 6.
[11] British Med. Journal, Feb. 4, 1888.
[12] Therapeutics, its Principles and Practice, seventh ed., 1888, p. 58 *et seq.*
[13] Annual of the Med. Sciences, vol. i.
[14] N. Y. Med. Record, 1889, i. p. 434.

in certain cases of impaired innervation,— no free hydrochloric acid may be detected, though sought for repeatedly with the utmost skill and the aid of every appliance and reagent.

It also appears that hyperacidity, though a frequent, is by no means a constant, accompaniment of peptic ulcer.

Indeed, it is impressed upon us that the pathology of an organ which varies so widely physiologically in the same individual within such short periods of time is a very complicated thing; and the lesson is again enforced that it is not in pathognomic signs, but in careful weighing of each piece of evidence and in the painstaking collocation of them all, that accurate diagnosis is to be attained.

Before leaving this subject I must say a word in praise of Ewald's remarkable work on diseases of the stomach,[15] and of the balance which he preserves while enthusiastically pursuing his subject.

Morton Prince[16] was led by his duties as examiner of applicants for the Boston Fire Department, and by the frequency with which he heard temporary murmurs in vigorous men, to a study of their mode of origin. It has been believed for some years that in debilitated states leakage may take place through the mitral valve, the curtains of which are not tightly closed by reason of the insufficient force of the ventricular contraction. It will be at once appreciated that Prince's cases were the reverse of debilitated; and his ingenious explanation of the murmurs heard in them is that under conditions of great excitement, such as many of the applicants presented, the valve may be forced by ventricular contractions of a power disproportioned to the resistance of the valve. It is not easy to detect a flaw in his argument, and it seems as if he had made an important addition to our knowledge.

There are many other subjects of which I should like to speak did time permit, and were the programme less attractive. Very likely another in my place would have selected quite a different series of topics. The highly important and interesting subject of cerebral localization, for instance, has not been mentioned. But the work which has been done in that direction the past year has been rather in popularizing previous studies, and in the application of their results to practical surgery, than in new discovery.

Prudden's[17] studies of diphtheria and the constancy with which he finds a streptococcus in diphtheritic lesions deserve more than passing mention. So also Hare's Fothergillian prize essay on mediastinal disease.

To sum up the results of the year, it may be stated that it has been one of real though not of brilliant progress. Knowledge has been advanced almost all along the line, more in some parts than in others; bacteriology in its broad sense, including the chemical poisons generated by or accompanying the microbes as well as the identification and life-history of the organisms, offering an enormous field for patient research. One fact seems to me to stand out in strong relief; namely, that our countrymen are on the high-road leading to the attainment of a reputation for scientific research equal to that which they have long enjoyed in the more immediately practical branches of medicine and surgery.

The future glows with a promise which the achievements of the past assure us will be realized; and it is the part of each one of us, if he cannot discover, at least to do all that in him lies to make the highest and best use of the discoveries of others more gifted than himself.

[15] Klinik der Verdauungskrankheiten, Bd. ii., Berlin, 1888.
[16] N. Y. Medical Record, 1889, i. p. 421; Boston Med. and Surg. Journal, 1889, i. p. 109 *et seq.*
[17] Am. Journal Med. Sciences, March and April, 1889.

Original Articles.

A MURDERER'S DYING CONFESSION DISPROVED

BY SURGICAL AND ANATOMICAL FACTS;

Read before the Massachusetts Medico-Legal Society, June 11th, 1889.

BY BENJAMIN E. COTTING, M.D., &c.,

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ON the afternoon of July 1st, 1874, a woman, twenty-two years of age, of no very uncertain character, was brought to the Boston City Hospital. She was completely paralyzed on the right side; seemed nearly or wholly unconscious; and had fearful and bloody injuries about the head. The story that came with her was that she had been found in this condition, a few hours before, in her "own hired" room, and in her own bed. When found she was motionless, and was at first supposed to be without life. Her head, neck, and shoulders were red with blood; and under them the pillows, sheets, and bedding were saturated with it. This blood had flowed freely from a number of open wounds on the left side of the head; but there was no spattering on the walls or objects near by. She was lying on her right side, with face towards the middle of the room, in the exact position apparently that she had taken on first going to sleep. Her night-gown and the bed-clothing about her body had not been perceptibly disturbed. Her day garments and smaller articles were orderly distributed about the room, as left on retiring. There was no sign discoverable that indicated the presence of any other person during the night. The room-door was locked, and the key remained in the lock on the inside. The windows were closed, but one was found unbolted. Through this a person could have entered, or escaped, as the room was on the ground floor; yet a most diligent search failed to reveal even the slightest evidence that anything of the kind had been done. At what hour she retired no one could tell; and no response had been gained to repeated applications to her door in the course of the forenoon. Although an adjoining room on the same floor had been occupied that night, its inmates declared that they had not heard a groan or a sound from her apartment.

So far as known she had not an enemy; yet doubtless had angered some one, inasmuch as an unrecognized man had asked for her the evening before, and, not finding her at home, had vowed terrible vengeance as he left the house.

Who did the deed, and what the instrument, were mysteries that seemed at the time to be past finding out.

On examination at the hospital several extensive and complicated fractures of the skull were discovered, with considerable depressions, thought to be chiefly in the outer tablet and not requiring trepanning. On and through the scalp were a number of bleeding wounds, — the hospital record says "nine on the left side of the head, besides several others near the left ear which cannot be separated." The ear itself was "greatly lacerated," caught as it must have been several times on the edge of the instrument when it passed into the scalp. Its helix also, with the cartilage, was cut through at its anterior upper part. These wounds were all of a curved or crescent shape, clean cut, each "little more than an inch long." From two of them "brain substance protruded in a mangled state;" and into one of them, the only one mangled, the finger could be passed, and carried through the broken skull to a considerable depth, without force, in the injured brain — the record states "fully two inches," and Dr. Cowles markedly (on his finger) confirms this statement. The lines of these wounds turned generally in one direction, inclining towards each other at various small angles; in several instances running together or crossing; some mingling in a confused or inseparable manner — particularly at the spot where the finger could be passed into the brain. The little points or tongues of skin, wherever these wounds crossed each other, were perfect to their very tips, and showed no sign whatever of rent or bruise.

The hair was very long and very thick: "We noticed it," Dr. Cowles writes, "to have been cut off quite sharply in correspondence with the cuts in the skin. . . . I am quite clear as to the cutting of the hair."

From the worst wound (it being indeed where were several of those "which cannot be separated") a few fragments of bone of considerable size were taken; and from just within the external opening of the wound some chopped hair, mixed with the mangled tissues there, required removal. The injuries to the bones, including depressions, were estimated to be within an irregular space of about three inches long and nearly or quite two inches wide, somewhat semicircular at its upper or widest part. The external wounds or cuts, also, with one or two exceptions, particularly one in the occipital region (diagram at *c*), were within the limits of such a space.[1] There were no wounds on top of the head, or any other part of the body.

Now, it is evident that a first blow must have instantly stunned and paralyzed this woman — else there would have been movement of her body or derangement of clothing, of which there was neither. This blow may have been given by a bludgeon, a mallet, or a hammer of suitable size, form, and weight. Such blow repeated would naturally extend the fractures, comminute them, and cause any amount



of depression in the bony skull. But open wounds in the fleshy scalp by such instruments would as naturally have crushed or bruised edges (not the linear cuts here present) and the blows that made such wounds would have caused a spattering of blood all about — not the free bleeding which in this instance blanched the victim and saturated everything near by.

To account for the fractures and depressions then did not seem so very difficult, — any heavy club might answer. But what produced the curved and curiously situated incisions was a more difficult problem; and experts, professional and lay, called upon to solve it, as well as detectives and friends, all failed to suggest an adequate solution.

Several days after her admission, Dr. Cowles, superintendent of the hospital, called me in, as a consultant, to look at these wounds, to see what I could make of them. The parts had been shaven and fomented. The surface of the skin was quite smooth and uniformly convex — still notably swollen — the swelling covering rather more than the space originally thought to include the injuries to the skull bone. Some of the cuts near the ear gaped a little, but the others were generally in a satisfactory condition, and all had the appearance heretofore described. After hearing the whole story, and a careful consideration of the matter in all its bearings, I suggested that such wounds required a sharp instrument (as all admitted), and that the deed had been done by a mechanics' inch-wide *gouge*, — a tool resembling a chisel, but having, instead of a flat, a "hollow" cutting blade, a longitudinal third or trisection of a cylindrical tube. This is bevelled off, like a chisel, to a cutting edge, which in this way becomes curved or crescent-shaped. If the corners also are ground off, as on turners' gouges (*vide* fig. *inf.*)[2] the cutting end partakes of a rounded, spear-like form, and presents a drawing edge to whatever may be brought in contact with it. Hence it might cut hair almost as easily as a razor. Its handle is usually nearly or quite cylindrical, and of firm hardwood. Thus the tool might be just the club for heavy blows, if held by its metallic end, while its cutting edge would most certainly make wounds like those in question.

[1] The following diagram may assist in forming an idea of the number, nature, and situation of the curved wounds in the scalp; and also of the location of the injuries in the skull, at *a*, *b*, and *c*, as seen afterward in the specimen. Most of the heaviest blows, with the cutting end of the weapon, excepting that at *c*, must have been in front of the upper lobe of the ear, towards *b*; that is to say, where the skull was much cut through, where "brain protruded in a mangled state," and where fragments of bone were taken out. The temple" was evidently aimed at by the assailant.

[2] The figure below represents the cutting end of a turners' gouge, — showing its curved shape, and the rounded outline of its edge.



Such an instrument had not been thought of; but the suggestion evidently made an impression; for, on the next day, Dr. Cowles came to my house, bringing a turners' gouge, of inch-wide blade, a new one procured from a shop as a specimen by a police officer who wished to know whether that was the kind of instrument I had spoken of, — as it certainly was. The tool brought to me was nearly or quite two feet long — its inch-wide steel or cutting portion and its handle being of about equal lengths. Its handle was a heavy billet of hardwood, smooth, cylindrical, slightly ovoid at the end. Such a tool usually weighs thirty-five ounces, at least a pound more than a policeman's billy. Held by the metallic portion, a blow, given by it as with a club, would be quite capable of crushing in a skull and instantaneously stunning a victim to unconsciousness. Indeed, this would be almost inevitable; and without necessarily breaking the scalp. Repeated blows would have the effect heretofore indicated. This done the operator, without removing his hand, but by simply turning the tool nearly or quite vertical, with edge downwards, could stab the fleshy parts as rapidly and as many times as he chose, before the victim could have time to revive or even move. He could do this after premeditated intention, or on the impulse of the moment, to thoroughly complete the deed. Such stabs would make clean-cut and curved or crescent-shaped wounds naturally turned in the direction of those found; and when the instrument was driven with force it would not be apt to slide or make grooves in the flesh, as a blunt tool would; and might pass directly through the already comminuted bone into the brain itself.

As the skull injuries showed that they could have been made by the handle of a gouge such as that brought to me, so the flesh wounds indicated the blade of a similar instrument. Indeed, Dr. Cowles had already tried the cutting end of the tool he had with him, and found that it would fit the wounds exactly.

Thus the problem seemed to be satisfactorily solved.

Dr. Cowles then went on to say further, that among those interested in the woman was a young mechanic, who was, in fact, so tremulously anxious about her possible recovery as to excite suspicion, and induce the surveillance of the police. Since my visit to the hospital this man had been taken into custody. Proving to be a turner by trade, his workshop and tool-chest had been searched. The chest contained the usual tools, having a series of gouges complete, with the exception of the inch-bladed one. That was missing! The arrested man could not explain its absence, or give any account of what had become of it. He could not even tell when he had used or seen it last; and it was too large a tool to be lost without notice. These were rather damaging circumstances, but he stoutly asserted his entire innocence of the whole affair; and no other evidence was ever found against him. He had, it appeared, known the woman for some length of time, and had always seemed to be anxious for her welfare.

The woman did not in any way connect him in the matter, nor even recognize him; in fact, she was never able to recall the assault or any thing or person of the evening previous — an ante-accident oblivion not uncommon in those who have been severely stunned. The detained man made out an *alibi;* and was subsequently set free. He was generally accounted guiltless of the assault. I am not aware that the missing tool has ever been found, or its loss accounted for.

(As merest conjecture, in solution of this part of the mystery — possibly the man who with "horrid oaths" had threatened vengeance the evening before the assault, while in search of a club, may have robbed the chest of this tool — a very natural thing for a mechanic to do, and not unnatural in anyone on felonious intent. This may have suggested itself more readily to him if he knew the owner was an intimate of the threatened woman, as in such case the missing tool would tend to divert attention from himself and to turn it upon another man. Besides, the carrying a tool would not attract notice; whereas the possession of a club might arouse suspicion. The deed done, he could easily throw the tool into the waters of the dock near by, nevermore to be seen of men. There was, moreover, as rumor had it, an unaccounted-for disappearance from the neighborhood of a man quite competent to all this.)

The injured woman, after a protracted convalescence (during which the paralysis gradually disappeared) and a residence for a time at an asylum, at length regained her usual health and sanity. Before she was discharged, however, she declared her fixed determination to return to her old mode of life; and was soon lost sight of, except by the local police of her own immediate neighborhood.[3]

In May, 1876, nearly two years afterward, a condemned murderer, a few days before his execution, made a "confession" of many of his misdeeds, and claimed this assault as one of the number. He stated that by chance that evening he had met upon the street this woman, before unknown to him; that he went with her to a restaurant; thence to her house, and passed the night there; that, in the early morning, while she was yet sleeping, he pounded her on the head with a hammer, and then left her for dead. He further stated that the hammer might be found buried in the earth in a cellar he had access to at that time. He had had other things there, for murderous purposes, awaiting opportunity. The finding of a hammer gave credence to the story, which was pretty generally acquiesced in. But having had much to do with the case for which this man was to suffer (his last victim having been my patient), I distrusted the narration. Yet what motive, it may be asked, as it has been, for a man so situated to make misstatements? Although now concerned with facts, not motives, here is one among others, quite conceivable. At about that time, in another case, a death-sentence was delayed and a commutation expected (afterward actually granted) on the open avowal of murders and other revolting crimes, — on the ground that "irresistible impulse," or something of the kind, had rendered the villain *not responsible*. More than one murder was

[3] Dr. Edward Cowles, now superintendent of the McLean Asylum for the Insane, at Somerville, Mass., kindly permits me to say, that to the best of his knowledge and belief the case in my paper, so far as it came under his observation and cognizance, has been related by me in a true and faithful manner.

chargeable to this last convict. A long list might save his *life*, if his philanthropic sympathizers (after having denounced his sentence as unmerited and too hasty) could be induced to urge upon the government the plea that "he couldn't help it." It would have been the venture of desperation; but it was too late.[4] He soon became "much mixed," and finally broke down.

As to my patient, I had, as her murderer at last acknowledged, given in open court more correct details of the deed than he was able to recount when, in sight of the gallows, he attempted a narrative of his now admitted crime, — admitted to his amazed legal defender, whom he had deceived, up to that moment, into full belief of his innocence.

In regard to the injured woman, his statements were so defective, or so at variance with my observations as a medical man, that, for myself, I soon became convinced that he never had anything whatever to do with her, unknown to him, as he admitted, up to the day of the assault.

But the hammer! It was (I have seen it), a smiths' hand or riveting hammer,[5] with circular face of seven-eighths of an inch in diameter, not very sharply defined at the edge, but enlarging almost at once into a square form of an inch and three-eighths diagonal line; weighing only rather more than a pound, handle and all; not very likely on a first blow to completely stun in an instant, and thoroughly paralyze one struck by it, or to cause, with its small face, large fractures or depressions in the skull, or any fracture at all without leaving small, local, pulpy bruises in the scalp where struck, and not a uniformly smooth swelling as in this case. The *pein*, or wedge-shaped end of such a hammer, if the blow were of sufficient force, might cause a fracture, but then the wound left in the scalp would be a *straight*, mangled furrow or indentation. In like manner its round face would have a soft or pulpy and somewhat cup-shaped depression. If an open wound of the full size of its face could be so made, it would be circular, of course; but if less complete and of an inch in length (more than the diameter of this hammer's face), it could not be of a lesser arc than a semicircle. † One, or two such wounds segregate, might be *imagined*, perhaps, but half a score or so would be clearly impossible. Now, the wounds we had to deal with were crescent-shaped, not semicircular; were sharply defined incisions, all of equal lengths, variously inclined and running into or crossing each other, and in themselves hardly conceivable as the work of a hammer, or as made by anything else than a sharp, cutting instrument. Besides, no hammer's blunt face could be forced into and through the skin, except at an angle, and then the opening would be bruised down on one side and crushed off on the other, according as the instrument slipped, as it inevitably would more or less, on a rounded skull. Furthermore, we repeat, wounds made by a blunt tool might spatter their blood, but not set running so many freely flowing vessels. Bruised wounds do not bleed like incised ones. Again, and fatal it would seem in themselves to the "confession,"—

(*a*) No hammer, however keen its circular face-edge, or other blunt tool, could make such "sharp" *cuts* in and through the mass of hair this woman had, — no, not one such; much less a score; (*b*) Nor is it possible, supposing a human arm had the power, that a hammer-head, being only one inch and seven-eighths in length from its face to the hole for its handle, could be forced through such hair, scalp, and skull, into the brain to a depth in all of "fully two inches," without making a much larger opening, carrying in to the very depths hair, flesh, and fragments of bone, and leaving a very different state of things on the outside from that here found.

All that was done, however, could have been easily effected with a turners' gouge.[6]

Not long ago, March 20th, 1889, fourteen years after the injured woman left the hospital, a notice appeared in the newspapers that her body had been received at the morgue. I immediately called on Dr. Harris, medical examiner, who at once, with most courteous readiness, offered all facilities possible at so late a period. He had not known anything of her previous history; but had been told that after a prolonged drunken debauch, of which she had had many, nature giving way, she fell into a state of exhaustion, and in a few days thereafter had a painless and peaceful death. The cause of death had been officially reported "alcoholism."

Even in the grimness of her present surroundings and after such a life she was not ill-looking. Her face and features were not disfigured. She had "never had disease," except from alcohol, and was not wasted. Her head-of-hair was quite extraordinary in abundance, great length, softness, and glossy blackness. It had been well cared for; even the officials of penal institutions had respected it; and, contrary to their usual custom, had left her in full possession.

There had been an autopsy, and everything had been replaced in proper order; not then to be further disturbed. I sought out, however, the external scars in the scalp — an important matter. They were not at first easy to find on account of the thickness of the hair. They were there, nevertheless; and, except near the ear, where was a wrinkled group, they were delicate, linear, crescent-shaped scars, unmistakably the result of clean cuts, or incisions healed by first intention, — not of bruises. There could be no doubt in the matter.

Some weeks later I had a chance to see the "specimen," — deprived of most of its integuments. Looking at it in front, a general depression of the middle of the left side, as compared with the right,

[4] This supposition is not necessary to the argument, and perhaps it implies too great facility in expedients; but a man who could thoroughly hoodwink his friends and advocates at will, could readily take a new tack when convinced that the one he was on was soon to prove fatal.

[5] A friend reminds me that the murderer said that he used a plasterers' (*i.e.*, lathers') hammer—quite a different tool from that found; an instance of his inability to give details correctly. The hammer, as found, was so defective and weak in its handle, where attached to the metallic head, that a very feeble blow would have broken its head off.

[6] A small matter, perhaps, but tending to show the kind of instrument used, — almost all, if not all, the curved wounds had their points forwards or somewhat turned diagonally upwards, precisely as if made by a gouge held as one, when about to strike such blows, would naturally hold it — at its middle near the junction of the handle, with the tips of the fingers resting high up in its metallic, "hollow" part.

was quite evident; and this occupied about the space estimated in the first examinations at the hospital. Such a uniform and shallow depression suggested the result of blows by a weapon of considerable size, without angular projections, — a smooth club, most probably.

On side view, about two inches above the anterior third of the zygomatic arch, there appeared evidences of former fractures (diagram, at *a*). From a point on the frontal bone near the parietal several lines of old callus radiated at acute angles as from a centre. Between two of the uppermost of these was a double triangular prominence about an inch long and quite an inch and a half or more wide as it diminished off towards the base.

Very likely the fractures at this place came from the first blow the woman received from her assailant.

On, or just above, the level of the zygomatic arch, there was an oblong opening in the skull — beginning at the largest portion, just in front of the anterior part of the temporal ridge, and extending forwards about two inches (diagram, at *b*). The upper and lower bony edges of this opening, irregular in outline, were not rough, having been smoothed off naturally in progress of time since the injury. The lower border seemed to be of two nearly equal lines, each very slightly curved and joined together at an angle, open upwards, of about a hundred and twenty degrees. The upper border of the opening was rather more irregular, but equally smooth. The anterior limits ended in a point, almost, while the posterior or aural portion was three-fourths of an inch, or more perhaps, across. From this space undoubtedly came the fragments of bone removed at the first examinations. Here too, near the ear, the finger could be passed into the brain, but no hammer of the size and form of that found could have ever made an entrance through such an opening. A gouge could have done this, and easily have shaped the lower border of this cavity.

On the occipital bone, about three inches behind the meatus auditorius, was (at *c*) a well-marked curvilinear depression of about an inch chord, which, with a slight ridge inside, gave strongest evidence of a former wound by an instrument that had gone completely through the skull at this point. This was where (in Dr. Cowles's trials, before mentioned) the gouge would most exactly fit the fleshy wound; and the prolonged depression of the enclosed fragment of skull showed with what difficulty the tool must have been wrenched from its impackment in the bone. Now, indeed, if any one can conceive of anything better adapted to produce such a wound than a gouge, he must have greater powers of imagination than I can lay claim to. Even with such an instrument the blow must have been given with very great force. Not to insist that, in the position the victim was lying, the blow of a hammer in the hand of an assailant, if it made a curved indentation, must have made one in a different direction, — no hammer-head, even if held as a punch and struck by a sledge, could be driven through all the coverings of the skull and the skull itself at that place, and simply cut out, or force in, a circular, or as in this case an almost semicircular, fragment. A general crush of all the neighboring parts would be inevitable. A small hammer in the single hand of one person would seem wholly out of the question.

There did not appear to be anything else in the "specimen" attributable to the assault now under discussion.[7]

To recapitulate, — it appears from the length and width of the space involved in the fractures, and the depressions being in the outer table chiefly, that the victim had been struck by a club of some kind, — one of considerable size, and smooth also, inasmuch as the scalp was not laid open by it;

That, instantly stunned and paralyzed, her motionless insensibility permitted other blows, and the infliction of any number of open wounds;

That the wounds actually made, a score or so scattered or inseparable, were curved or crescent-shaped, with clean-cut edges, the little points, at the crossing of any two, whole and clearly defined, not bruised; that these wounds were of nearly equal size, each a full inch in length; and, further, that they were cut through thick hair "quite sharply," and through the scalp also, in one or two instances going quite through, and deeply into the brain; all evidently done by some kind of sharp-edged instrument;

That these wounds bled freely, as cut wounds generally do;

That a turners' gouge fulfils all the requirements of the case; while the hammer utterly fails in regard to the open wounds, and, as we think, in every particular.

Such are the premises; and such the offered solution.[8] An adequate explanation, however, ought to be enough to hold against the improbable, or the defective.

To some persons the circumstances attending the "confession" may seem to add credibility to the murderer's story, but they should not. The confession of criminals, even when without motive and only tending to increase their infamy, are not received by courts of justice unless supported by other and more trustworthy evidence. Dying persons, in their feeble and imperfect utterances, seldom fully know what they are talking about, as momentary revivals often prove. In the partial delirium of weakness, as in half-sleep, a person striving to say one thing may utter something very different from what he wishes, semi-consciously, and in spite of himself. Last words, ordinarily of little moment, should be construed with caution, for too seldom can they bear the interpretations one would gladly give to them. Death-bringing illness, while killing the body, generally, even where and when least expected, clouds or nearly obscures the

[7] There were three little depressions in the outer table near the vertex, two on one side of the sagittal suture and one on the other side, — as if it were at the corners of a right triangle. They were each capable of holding half a large pea, flattened. They were out of the reach of a weapon of any kind as the woman was then lying; and, as there were no wounds of any kind in that region when she was admitted to the hospital, they could not have had anything whatever to do with this assault.

I have the support of the highest authority in saying that there is nothing in the "specimen" inconsistent with the theory that a gouge was the instrument used by the assailant.

[8] Its elucidation an after-thought — else more thorough in details — incited by the last notice in the newspapers of the woman and her avowed assailant.

intellect, and fills the mind with baseless delusions, while the crushing terrors of impending destruction seem at times to start up in a culprit's mind remembrances of crimes which he never committed.[9] What wonder then, that, broken down by despair, the last straw of hope floating away, with mental powers utterly demoralized,[10] a doomed man, with or without rational motive, magnify his many misdeeds, assuming the acts of others which he had gloated on, and incorporating them with his own.

At all events, this portion of the murderer's "confession" I did not believe at the time. I do not believe it now. Facts in the case disprove it.

N. B.— After reading my paper a friend called my attention to an article in the London *Lancet* (Apr. 20, 1889, p. 819) wherein the writer asks, "Are most dying declarations unreliable evidence, and how may we differentiate them?" and then says, in answer, "If a human being be aboulic . . . . if suffering from extreme nervous exhaustion through terror or otherwise . . . . his [dying] statements are unreliable as evidence, ... and the sooner medical jurists insist on the alteration of the position and value of such testimonies the better it will be for society and for mankind."

THE MOVEMENTS OF THE LOWER JAW.

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THIS paper presents the results of certain original investigations conducted in the physiological laboratory of the Harvard Medical School under the direction of Prof. Henry P. Bowditch. The results obtained are interesting, as they indicate the exact movements of the jaw, and prove that certain errors exist in all descriptions of this articulation as given by the eminent anatomists and physiologists.

These discrepancies may be briefly noted as follows:—

Monro[1] wrote, "that the mouth could not be opened, if the lower jaw was protruded, without withdrawing it from its advanced position;" this is clearly incorrect, as will be indicated later.

Ferrein[2] was quite accurate in his description, but he wrote that "the condyle advances under the eminence;" in many cases it goes under it and mounts the other side, which he omitted to say.

Humphrey[3] falls into the same error and said that "the condyle advances upon the glenoid ridge and should not go quite to the summit," which in many cases it certainly does.

Morris[4] was in error when he wrote that the condyle itself never reaches quite so far as the summit of the glenoid ridge.

Küss[5] wrote that the lower jaw, as it rises and falls, represents a lever moving around a supposed axis centred at the condyle, which remains in the glenoid cavity in small openings; and in greater separation the supposed axis is placed at, or near, the dental foramen; this is also incorrect, as will be proven later.

Quain[6] states "that the condyle rests on the convex root of zygoma when the mouth is opened. As stated above, in most cases it advances farther forward than he states.

The error of Gray[7] is in the statement that in openings of slight extent, the condyles simply rotate on a transverse axis against the cartilages, whereas the condyles begin to move forward simultaneously with the beginning of opening. Again, he says the condyles simply "glide on to the articular eminence."

The first requisite in the study of jaw movements is to move the jaw and get a permanent record of the movement; the method used was the photographic, the same as that used by Marey and others, and may be described as follows: a bright silver bead was fastened to a wooden pin or dowel, which was firmly inserted between the inferior central incisors; with the subject in a strong sunlight, so that a bright spot should be reflected from the bead, a pure profile or side view was photographed, and the sensitive plate was exposed during the opening of the mouth; the bright spot reflected from the bead during the motion was continuously photographed and its excursion recorded on the negative as a line, giving the actual movement of the place upon the jaw to which the bead was opposed.

The earlier experiments dealt solely with the simple tracing at the symphysis, and while the results obtained with one bead were both instructive and interesting, the more valuable results were found by getting the relative movements of condyle, angle, and symphysis; to get tracings at these points, a light framework was constructed, which simply reached around the face from the lower incisor teeth, to which it was securely fastened, nearly to the ear; adjusting devices held bright beads which could be placed directly opposite the condyle, angle, and symphysis; the photographing took place as before, each bead making its tracing.



FIG. 1.

[9] "An instance of remembering events that never occurred."—H. W. B. on testimony in another noted case.

[10] A recipient of another part of the "confession" says of it that it was "true so far as a person, with a mind so thoroughly demoralized as his had been, could make it." In fact, it is to be surmised that his statements generally would require corroborations from other testimony.

[1] Medical Essays, Edinburgh, 1735.
[2] Collection Academique, Paris, 1785.
[3] Humphrey's Human Skeleton, 1858.
[4] Anatomy of the Joints, Morris.
[5] Lectures in Physiology, Küss, Duval.
[6] Quain's Anatomy, 1883.
[7] Gray's Anatomy, 1887.

Figure 1 shows the device as applied to a skull; the pin is inserted between the lower front teeth, two of the bright beads being adjusted directly opposite the condyle and angle, the other in front of the symphysis. It is apparent that the jaw and device will move in concert, and that the movement of the beads is, in fact, the same as that of the points opposite to which they are placed.

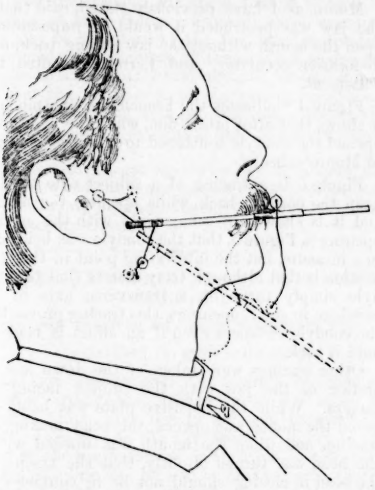


FIG. 2.

Figure 2 represents the tracings as taken at the three points mentioned.

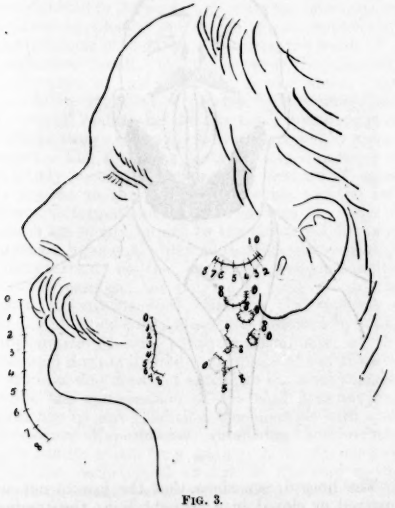


FIG. 3.

It now becomes necessary to indicate the methods by which the several tracings were subsequently studied. The picture was enlarged in outline by optical projection, and the tracing of the opening at symphysis was subdivided into convenient spaces; then, by means of dividers, corresponding points in the tracings at condyle and angle were determined as follows.

Referring to Figure 3, it is evident that the distance between the point marked 0 in the tracing at symphysis and the point marked 0 at the condyle does not change, inasmuch as both points are attached to a device which does not change its length; and though these points may seek different positions when the mouth is opened, the distance between them remains the same; and we find the ends of the tracings at 8 to be the same distance apart as at 0, the beginning. If the dividers are set at the proper distance, we can find, by simple measurement, how far the condyle moves in a given movement at the symphysis, and the motion of the angle is worked out in the same manner. The numbers on the tracings in Figure 3 indicate the positions occupied simultaneously by the various points of the jaw, the movements of which have been studied.

The tracings at all points in the jaw are readily understood, if we regard their motion as the result of a combination of a uniform downward and backward rotation round the condyle, with a forward motion of the condyle itself in a curved line, with the concavity upwards, always bearing in mind that this movement of the condyle is, at first, slow, then more rapid and subsequently slow again. It is evident that points in the immediate neighborhood of the condyle will have a movement differing very little from that of the condyle itself, while at more distant points the backward rotation round the condyle will be relatively more prominent, because the motion is on the circumference of a larger circle.

The tracings in Figure 3 illustrate this point. It will be noticed that the tracing nearest to that of the condyle is, like the latter, a curve with its concavity upward, but at the beginning and end of the motion, where the movement of the condyle is relatively slow, the rotation round the condyle is able to impress its backward motion upon the tracing. In studying the motion of points in the ramus, successively more and more distant from the condyle, we observe that the backward rotation becomes more and more prominent as a factor, and the forward movement due to the gliding of the condyle round the articular eminence less and less marked. The fact that this forward movement is most rapid in the middle of its course explains the loop-like character of these tracings, which is retained even so far down as the angle of the jaw.

By referring to Figure 3, it will be noticed that the condyle begins to move forward immediately, and even in a small opening of the mouth it performs quite a considerable excursion, contrary to the assertion of Gray and others to the effect that in small openings the condyles simply rotate on a transverse axis against the fibro-cartilages.

Again, it is stated by Morris, Humphrey, and others that the condyle never quite reaches the summit of the eminence; most of the tracings show that it does reach the summit and even be-

gins to mount the anterior side, as may be seen by Figure 3.

There are, however, exceptions, and it seems necessary that any assertion as to the action of this articulation should be qualified by the statement that there is considerable individual variation in



FIG. 4.

the relative movements of condyle, angle, and symphysis.

The idea of Meyer[8] that the jaw is suspended or hung in its lateral ligaments is substantially correct,



FIG. 5.

[8] Die Statik und Mechanik des Menschlichen Knochengerüstes. Leipsig, 1873.

and we can readily see that in moderate opening, when the condyle advances, the movement of the angle is comparatively slight, but when the capsular ligament becomes tense the condyle is kept from farther anterior movement and the angle goes back, as may be seen in Figure 3, the jaw swinging from the attachment of the lateral ligaments on the temporal bone.

Monro, as I have previously stated, said that if the jaw was protruded it would be impossible to open the mouth without the jaw sliding back, or a dislocation occurring, and Ferrein disputed this statement.

Figure 4 vindicates the Frenchman, inasmuch as it shows that after protrusion, when the mouth was opened the condyle continued to advance, contrary to Monro's theory.

Figure 5 is a tracing of a subject who tried to keep the condyle back while opening the mouth, and it is shown, by comparison with the normal opening in Figure 3, that the condyle was held back in a measure, but the interesting point in this connection is that although Gray asserts that the condyle simply turns on a transverse axis in the cartilage in small openings, this tracing proves that the condyle advances even if an effort is made to hold it back.

Other tracings were taken of the down and up motion of the jaw with the subject facing the camera. While the sensitive plate was being exposed the mouth was opened, the bead making its tracing, and when the mouth was opened widest the head was turned slightly, that the tracing of the bead in closing should not be in contact with the opening tracing.



FIG. 6.

The lines drawn show that the jaw is not depressed or closed in a straight line; the tracings taken contain several curves, which will vary with the same person at different times, on account of

the extreme mobility of this articulation and the fact that the condyles do not advance synchronously.

These tracings are interesting to dentists, inasmuch as they show what has to be contended against in taking the "bite" preparatory to the insertion of an artificial denture.

To conclude, as Ferrein said one hundred and fifty years ago, the movements of the lower jaw are not well understood, and much that is written of them is at least faulty. Probably some inaccuracies may be explained by the fact that anatomists have made too much use of the cadaver to demonstrate the actions of the articulations, whereas it may be that the contraction of the various muscles co-operating with and antagonizing each other is the important factor in determining the exact movements of the jaw.

If these investigations throw any light upon the movements of the lower jaw, or awaken an interest in the further study of them, something will have been accomplished.

REPORT ON PROGRESS IN ORTHOPEDIC SURGERY.

BY E. H. BRADFORD, M.D., AND E. G. BRACKETT, M.D.

PARALYSIS IN POTT'S DISEASE.

Elliott[1] has considered, in a careful and comprehensive article, the mechanism of the lesion or lesions which give rise to pressure paralysis in Pott's disease. As the old theory of injury to the cord by the encroachment on the canal by the crumbling vertebræ was seen to be unreasonable, by the fact that the degree of deformity does not materially influence the occurrence of paralysis, and also that specimens often show no encroachment on the canal, however much the direction was altered, attention was directed to the cord; and after the observations of Michaud, Charcot, and others, it was accepted that the paralysis was due to a myelitis, the result of a mechanical lesion. Of late, however, the inflammatory nature of this lesion has been doubted. Erb speaks in favor of a process of softening, and Strümpell claims that he has never found signs of inflammatory change in cords compressed by spinal caries. The following facts are urged in favor of a purely mechanical cause: A mechanical cause is present in the diseased vertebræ, and the tendency to formation of abscess cavities, the walls of which are partly formed by the thickened dura and anterior ligament, which have undergone a change characterized by the name of pachymeningitis externa caseosa; the bulging of this is into the canal toward the cord; clinically, the appearance of a gluteal or psoas abscess is followed by a disappearance of the paralysis; the site of the diseased dura is limited to the place of the diseased vertebræ, and does not extend to its inner surface, while the examination of the cord does not give evidence of any condition incompatible with compression. Experiments producing compression give results which from analogy favor this view — that the pathological change in the cord is the result of mechanical pressure only. The following summary is given: —

1. We have a simple mechanical process in the form of an abscess cavity, thickened dura or bone.

2. The inflammatory process is invariably a limited one, the inflammation of the dura being limited exactly to the site of the diseased vertebræ, showing no tendency to extend in the membrane — Nature's protection.

3. The ventral or medullary surface of the dura, at the site of the lesion, is almost invariably normal.

4. The pressure lesion is simply a mechanical one, manifesting no tendency to involve the spinal cord, through any inherent specific character of the carious process — a simple, bland mechanical lesion, and the damage it does commensurate with pressure exerted.

5. Pathological examinations have in the majority of cases necessarily been limited to old cases where the lesion had existed for a very considerable period, and such examinations usually revealed the cord largely converted into connective tissue, at the site of the lesion.

6. The presence of sclerotic tissue at the site of compression is no evidence that the original lesion was of an inflammatory nature, since it is a well-established pathological law that throughout the nerve centres destruction of nerve tissues by processes degenerative or otherwise is invariably followed by increase of connective tissue.

7. Experimental physiology gives no evidence of an inflammatory lesion following experimental compression of the spinal cord.

8. Finally, a careful revision of the pathological findings, in carefully reported cases, reveals to us in the light of recent pathological knowledge but a very few cases (4) where we have reason to believe the lesion to have been inflammatory. The suppurative process had been a very virulent one, and the pia mater had become involved. In three of the cases the dura mater has been perforated.

There are certain cases which he claims would be folly to consider as due to either myelitis or compression as described. Such are those in which the paralysis is of short duration, or the recovery is very rapid. These he considers are due to the indirect interference with the circulation. The blood-supply of the central part of the cord is by small arteries, and the anastomosis is not free. The lesion in pressure paralysis is not deep, and the arteries, situated on the surface of the cord and nerves, are at a disadvantage. Also, it is known that the inter-vertebral foramina are filled with exudation material, and microscopical examination of the arteries shows a thickening of their walls. Thus there is ample opportunity for considerable interference with the circulation. Erb says that softening and necrosis follow after this interference reaches a certain degree. Also, if the venous outflow is hindered there may be hæmorrhage from the engorgement. In favor of this theory of vascular disturbance he gives the following statement of the points demonstrated:—

1. Loss of blood-supply to the spinal cord produces motor and sensory paralysis. This is the result of experimental physiology to that end.

2. Increasing interference with blood-supply to the cord produces gradually increasing paralysis.

3. The blood-supply of the cord depends largely

[1] Trans. Internat. Med. Cong., ix. 1887, iii. 363.

upon the reinforcing branches which pass through the inter-vertebral arteries.

4. These arteries course over the surface of the cord.

5. The symptoms of this form of paralysis arise from affection of the anterior rather than the posterior portion of the cord, of the superficial rather than the deep, and the pathological findings sustain the clinical picture.

6. We have further shown that the result of the interference with the blood-supply may be in all degrees, from partial impairment of function to complete ischæmic softening.

7. This form of paralysis complicates a lesion when there are inflammatory products pressing upon the nerves and arteries coursing through the inter-vertebral canals.

8. The clinical picture of the vast majority of these cases is satisfactorily explained by the variance of the vascular mechanism.

The following conclusions are given as embracing the etiological condition of this disease:

1. A lesion producing pressure paralysis is in certain cases of an inflammatory character, a true myelitis, manifest in either the parenchymatous or interstitial form.

2. The vast majority of cases, however, we believe are due to a mechanical lesion, of which the circulatory cause is but a variety, and that this is in the future to be made the basis of pathology, and will merit the place held by the inflammatory theory of to-day.

TREATMENT OF JOINT TUBERCULOSIS.

Gester [2] calls attention to two aids of antitubercular therapy, preventive and curative, which he considers do not receive the attention they amply deserve.

First — the ice bag, on the principle demonstrated by Koch, of the extraordinary sensitiveness of the bacilli of tuberculosis to slight variations of the temperature of the soil in which they grow. This depression of temperature does not kill the spores, but brings about an arrest of growth, during which time the general power of resistance can be strengthened, and the healthy tissues can throw up around the focus of disease a wall of protective tissue. The class of cases especially benefited by this treatment are those of purely synovial tuberculosis.

The second "consists in the early ferreting out and surgical evacuation of tuberculous cheesy foci located in the epiphysis of the bones entering into the formation of this or that joint."

In adults, owing to the difficulty of orthopedic treatment, especially of the lower extremity, he advocates early exsection, and sums up as follows: "In tuberculous affections of the joints of adults in poor circumstances, especially those of the lower extremity, early operations are indicated and justified; total exsections deserving the preference, as a rapid and lasting cure is most desirable."

In children with local articular disease he advocates removal of the diseased portions only. This removal should be very thorough, that no diseased bone may remain as foci of extension of the process. This is aided by continuous irrigation with strong solutions of corrosive. General infection from the mechanical disturbance of the joint, called by Koenig "operative dissemination of tuberculosis," should be carefully guarded against. In such situations where an Esmarch bandage may be employed, this is easily avoided, but with the hips and shoulders special precautions must be taken. Such are, the avoidance of all rough force, clean work with the knife wherever possible, and the use of continual irrigation whenever the scoop is used to remove granulations, carious bone, or cheesy matter.

Barker,[3] in an article on the operative treatment of tubercular joint disease, describes an instrument used by him, by which the diseased portions are detached and washed away at the same time. It consists of an ordinary scoop, the handle of which is hollow and opens into the concavity of the instrument. A rubber tube of an irrigator is attached to the handle, and a free flow of water can thus be directed at the point of operation, under the immediate control of the operator.

ARTIFICIAL AUGMENTATION OF THE GROWTH OF BONE.

Max Schüller.[4] The theory is based on the principle that increase of blood-supply is frequently followed by an activity in growth, as is often seen after chronic inflammatory processes, this occurring when the disease affects the diaphysis, but when the epiphysis, or interarticular cartilages are the seat of disease, a decrease in bone formation ensues. Langenbeck, Bergmann, Dittel, Tillmann and others have made observations on the regeneration of bone. Helferich, von Bidder, and Haab have confirmed them experimentally. Pathological increase in bone growth has more rarely been observed after fractures, in joint disease, etc., and only in children. Experiments show that irritation results in an increase of bone formation. This may be done by scratching the periosteum, insertion of pegs, or by an elastic bandage producing an artificial congestion, as recommended by von Helferich. Schüller produced irritation in bone by means of steel pins, which were driven into the affected bones and left in four or five days. The results were very favorable. These cases are given with decided improvement. One case was of infantile paralysis, one of resection of the ankle leaving a loose joint, and one of genu valgum. An increase of bone formation occurred in each, with an improvement in usefulness of the limb.

Schüller tried the elastic ligature in cases of infantile paralysis. He so applied it that it compressed the veins but not the arteries. In addition he employed massage, exercise, bathing, diet, etc. At first the bandage was allowed to remain only a few hours, but later was worn continually. Improvement occurred in all. In two cases reported there was an actual increase in the length of the bone.

RESECTION OF LONG BONES.

Arthur Neve [5] gives his results of resections of

[2] Trans. Med. Soc. N. Y., 88, 478.

[3] Brit. Med. Jour., 1889, i. 121.

[4] Deut. med. Zeitschr., 88, No. 99, from J. Med. Sc., Feb., 1889.

[5] Am. J. Med. Sc., 1889, Mar., 229.

shafts of long bones, about two hundred in all. The operations were for necrosis, more or less extensive, and in some cases the entire shaft was removed. The periosteum was carefully preserved, and in no case was there failure of reproduction of bone with useful limb, and only two cases were fatal. The primary resection is applicable to those cases in which more or less general necrosis is inevitable, and particularly for those cases of acute periostitis, sometimes called osteomyelitis, following fracture. The patients react quickly and well, even those reduced by long suppuration. The reproduction of the osseous tissue is usually rapid; in one case, in which four and a half inches were removed, the patient walked in a month.

Secondary resection, that is, of healthy bone, is on a different basis. In this operation the age of the patient and condition of the periosteum is to be considered as well as general conditions, as there is danger of too great interference, and a failure to obtain sufficient new bone formation, and in early operation on cases other than of total necrosis it is not easy to estimate the amount of bone that will be sequestrated. When there is considerable central necrosis it is better to remove a part of the circumference, as the cases heal much quicker.

After resection of the whole thickness of a long bone, shortening and distortion is to be guarded against.

(To be continued.)

Reports of Societies.

FORTIETH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION,

HELD AT NEWPORT, R. I. JUNE 25TH TO 29TH, 1889.[1]

General Session — Second Day — Wednesday, June 26th.

THE meeting was called to order by DR. W. W. DAWSON, the President, who called upon the Right Rev. Thomas U. Clarke, Bishop of Rhode Island, to offer prayer.

DR. WILLIAM PEPPER, provost of the University of Pennsylvania, then gave the address on general medicine.

It consisted almost wholly of a biographical sketch of Dr. Benjamin Rush, of Philadelphia, who was born in 1745 and died in 1813. He was surgeon-general and physician-general of the Continental army, and professor of the theory and practice of medicine in the Philadelphia Medical College. In 1785 he planned the Philadelphia Dispensary, the first in the United States. Dr. Rush was by far the most prominent of the doctors of the Revolutionary period, — so prominent, in fact, that he was to the American medical profession what Dr. Sydenham was to England. His fame rested chiefly on his great efforts in the epidemic of 1793, when he stood out beyond all his colleagues as the doctor whose practice most resembled the practice of the present day, although he treated fevers and phthisis by bleeding. His use of the lancet was compared with that of Dr. Sydenham and the present day, and the opinion given that in the earlier periods of disease it is a question if the practice of these older men was not, at times, better than the present. After considering the practice of Dr. Rush in the case of fevers, in which he advocated the use of cold water and dieting, Dr. Pepper spoke of his great abilities in other directions. In mental diseases he was a pioneer of rare sagacity, large wisdom, and enlightened humanity. His course in consumptive cases was referred to and his advanced views shown. In every way Dr. Rush was a pioneer in the field of medical practice, and the history of American medicine practically begins with and was for a time the history of Dr. Rush.

SURGEON A. L. GIHON, U. S. navy, chairman of the Rush Monument Committee, then read his report, starting with the statement that the committee could report no progress compared to their expectations, and, at the present rate, there was no hope even of any of the present committee ever living to see the monument. It was thought there would be no trouble in getting $40,000 if the doctors each contributed one dollar for the purpose. After five years the committee had but one thousand, instead of the forty expected. The history of popular monuments generally agreed, however, with this, the speaker quoting the Washington, Grant, Liberty, and other monuments to show how slow the American people were in such matters compared with the Old World. He made an eloquent plea for some decisive work, and announced that the $1 limit was dropped and larger sums would be taken.

During the morning $264.50 was received, one of the contributors being Dr. Earley, whose family physician Dr. Rush had been. Several propositions were made to further the work of collection, and it was voted to appoint a canvasser in each county to personally solicit.

Various amendments to the constitution were proposed, discussed, and rejected.

A resolution from the section of state medicine was read, stating it to be the duty of the United States and every other country to abolish sources of infection within their borders.

Third Day — Thursday, June 27th.

A communication was received from the Social Science Association inclosing a copy of resolutions passed by that association demanding a more thorough training for medical students, and petitioning the State legislatures for laws against incorporation of bodies unqualified to teach medicine.

The memorial was accepted.

DR. HOOPER, of Arkansas, offered the report of the trustees of the journal of the association.

The report showed that the weekly circulation was four thousand six hundred and thirty-three copies, four thousand three hundred and thirty-nine of which were sent to members of the association; the present edition was five thousand, and the journal was free from debt.

THE ADDRESS IN SURGERY

was delivered by PHINEAS S. CONNOR, M.D., of Cincinnati.

It was one of much interest, reviewing the progress of surgery in the past forty years, showing the triumphs of anæsthetics, of antisepsis, of

[1] Continued from page 650, vol. cxx.

internal operative surgery, whether in the abdominal, the thoracic, or the cerebro-spinal cavities, and indicating the probable conquests of the surgeon in the future — especially in regard to tuberculous and cancerous affections.

Dr. Connor brought his eloquent and hopeful address to a close with the following words:—

As we survey the advances, etiological, diagnostic, and therapeutic, made in the few years just past, that are of the scientific period, and consider, even in the most hurried way, the problems that are yet awaiting solution — problems relating to nature, origin, and treatment of the diseases and injuries of parts within the domain of surgery — what may we not reasonably anticipate as the future of our science and art! Accidents must occur, diseases will prevail, no matter how great the triumphs of preventive medicine. Surgical pathology is but in its infancy. Years ago it was declared that operative surgery had reached its climax. Yet since then operations have over and over again been done within abdomen, chest, and skull, upon the larynx, throat, and spinal cord, that in boldness of conception and brilliancy of execution have no parallel in the history of medicine. The end is not yet, nor will be while, the world over, there are active minds and cunning hands busied with the determination of the existence and extent of surgical affections, and ready and able to remove them, aided more and more by labors of investigators in many departments of science, general as well as medical. Year by year he who may deliver the address on surgery will be able to report doubts removed, discoveries made, remedies employed, and operations done.

The next meeting of the association it was decided to hold at Nashville, Tenn., the third Tuesday in May, 1890.

The report of the nominating committee was accepted and the nominees were elected as follows:—

President, E. M. Moore, of Rochester, N. Y.; vice-presidents, J. W. Jackson, of Missouri; W. W. Kemble, of Minnesota; J. H. Warren, of Massachusetts: T. B. Evans, of Maryland; permanent secretary, Wm. B. Atkinson, of Philadelphia; treasurer, R. J. Dunglison, of Philadelphia; librarian, C. H. A. Kleinschmidt, of Washington, D. C. Trustees of the journal, T. O. Hooper, of Arkansas; Alonzo Garcelon, of Maine; I. N. Love, of St. Louis; W. W. Dawson, of Cincinnati. Address in medicine, N. S. Davis, of Illinois; in surgery, Hunter McGuire, of Richmond; in state medicine, A. L. Carrol, of New York. Chairman of the committee of arrangements, W. T. Briggs of Nashville. Assistant secretary, G. C. Savage, of Nashville.

DR. F. WOODBURY, of Philadelphia, offered a resolution, which was adopted, recommending the alteration of our patent laws in so far as these now favor foreign manufacturers of drugs.

A resolution from the section on state medicine was adopted recommending uniformity in State medical legislation; that a thorough preliminary examination, three courses of lectures, and an examination by the board issuing a license be required; the license to practise be recorded in the office of the county clerk; and that the licensing board be endowed with power to revoke a license on acount of immoral conduct.

DR. WOODBURY, of Philadelphia, moved that the members of the American Pharmaceutical Association be invited to seats on the platform, and that a committee be appointed to confer with the association in reference to the creation of a section of pharmacy and materia medica in this association, and to report on the second day of the next annual meeting.

SIR JAMES GRANT, of Ottawa, was presented and made some brief remarks.

Officers of sections were elected as follows for the ensuing year: —

Practice of medicine — Chairman, J. H. Musser, Philadelphia; secretary, Hugh McCall, Lapere, Mich.

Surgery and anatomy — Chairman, B. A. Watson, Jersey City; secretary, John B. Deaver, Philadelphia.

Obstetrics and diseases of women — Chairman, W. W. Potter, Buffalo; secretary, Joseph Hoffman, Philadelphia.

State medicine — Chairman, J. B. Hamilton, Washington; secretary, F. S. Bascom, Utah.

Laryngology and otology — Chairman, John O. Roe, Rochester; secretary, Frank H. Potter, Buffalo.

Diseases of children — Chairman, I. N. Love, St. Louis; secretary, E. F. Brush, Mt. Vernon, N. Y.

Dermatology and syphilography — Chairman, I. E. Atkinson, Baltimore; secretary, W. T. Corlett, Cleveland.

Oral and dental surgery — Chairman, J. L. Williams, Boston; secretary, E. S. Talbot, Chicago.

There was no election in the section of Ophthalmology.

SECTION OF THE PRACTICE OF MEDICINE, MATERIA MEDICA, AND PHYSIOLOGY.

First Day — June 25th, 1889.

The section was called to order at 3 P. M. by the Chairman, DR. F. C. SHATTUCK, of Boston, who, in accordance with the usual custom, reviewed the progress of medicine in the past year.[1]

The first paper was read by DR. C. G. STOCKTON, Buffalo, N. Y., on

THE PASSAGE OF PORTAL BLOOD INTO THE GENERAL CIRCULATION, AND ITS PROBABLE RELATION TO TOXÆMIA.

The reader claimed, first, that the occurrence of inosculations between the portal and general systemic veins was to a certain extent normal; that these intercommunications might as anomalous conditions be extensive; that obstructive liver diseases, or peri-hepatitis, might result in the production of new anastomoses.

Second, that the blood of the portal vein was toxic in character, at times extremely so. The lower pressure of the blood in the portal than in the general venous circulation was held to be the reason of prevention of toxæmia in ordinary cases. In case of obstruction in the portal circle portal blood entered the systemic veins without filtering through the liver, thus inducing toxæmia.

Were it not for the action of the blood upon the

[1] See page 1 of this Journal.

substances which are carried into the circulation this would prove more disastrous than it does. The blood in health possessing the power of self-purification to a certain extent, serious toxæmia did not often follow until the integrity, the resistance, of the blood was diminished by long effort or by disease, and then toxicity was made evident by symptoms.

Reference was made to the coma of cirrhosis, to propeptonuria, glycosuria, and certain cachexiæ. The low pressure in the portal vein was proved by experiment of Prof. Julius Pohlman upon lower animals.

DISCUSSION.

Dr. William Osler, Baltimore, in opening the discussion, said he doubted if toxæmia in hepatic cirrhosis received its solution in this way. The collateral circulation, of which the reader spoke, was not a rarity, but a constancy; for the blocking of the channels in the liver due to cirrhosis must be met by collateral circulation; and in every case of cirrhosis whether symptoms occurred or not would depend entirely upon the degree of collateral circulation established. It was the counterpart of the narrowing of a valve in the heart; if compensatory hypertrophy occurred symptoms were slight. Most extreme cases of cirrhosis had been found post mortem without a single symptom in the individual's lifetime. In such a case a large proportion of the portal blood was passed into the systemic circulation. Furthermore, those still rarer instances of firm fibroid, obliteration of the portal vein, where all the portal blood had had to find its way for years into the systemic circulation, seemed quite opposed to such a theory.

Dr. W. S. Tremaine, United States army, thought a mistake was often made in thinking of the portal circulation and the portal system as distinct from each other. The portal circulation was a part of the venous circulation, the liver being interposed. The portal circulation contained blood which differed from that found in other portions of the venous system, and when the blood passed through the liver it passed through for certain purposes, many of which were not clearly understood. He thought these toxic symptoms were due rather to defective action of the liver in eliminating deleterious or in producing other products which might be necessary. He agreed with the reader with reference to his remarks on the blood. He was inclined to look upon the blood, not as a homogeneous fluid flowing through the blood-vessels, but as an organ capable of manufacturing certain substances which might be necessary to life, and capable of removing or destroying deleterious substances. Digestion, he believed, did not conclude with the liver, with the stomach, with the intestines, but was carried on in the blood. We were apt to be led into error by accepting certain physiological statements as facts, while they were often only theories.

Dr. J. H. Musser, Philadelphia, said that clinically the forms of coma he had seen in cases of cirrhosis of the liver, or after other liver derangements, he had explained either by the occurrence of cholæmia or possibly uræmia. The liver was a poison destroyer, and when its function was destroyed coma might arise from toxæmia.

The establishment of collateral circulation was something we should look forward to as offering relief to our patients.

In all the cases of coma he had seen there had been some determining factor prior to the coma disturbing the balance of the economy, as for instance pneumonia, which interfered with oxidation, or an extreme degree of congestion of the lungs or some other organ, some serous membrane particularly.

Dr. Hare, Philadelphia, expressed the belief that any capillary network was just as destructive of poisonous substances in the blood as the liver. Experiments seemed to show that the liver, so far as poisons were concerned, was nothing more than large capillary networks through which these poisons had to pass.

It seemed to him reasonable that the interference of oxidation in pneumonia might be a cause for some of these toxic symptoms, owing to the presence of effete matters in the blood.

In regard to the influence of the blood which passed from the portal vein into the systemic circulation in the production of poisonous symptoms we must bear in mind that if it contained peptones thoroughly converted by the gastric juice no disturbance would result, whereas semipeptones would produce very distinct toxic symptoms.

Dr. C. G. Stockton, in closing the discussion, said he did not deny that in cirrhosis and in other diseases involving practically occlusion of the portal vein no serious symptoms might occur. He did not wish to be understood as directing the paper towards cirrhotic coma, but he had used that as a marked illustration. He admitted that the inosculations were common, but held that portal blood did not flow into the systemic veins, except when there was obstruction in the liver, because of the low pressure in the portal vein. This low pressure was the only protection, he held, to the entrance of portal blood into the general circulation, and there must be present a condition producing portal obstruction to allow the portal blood to flow out in this way. If the liver had this function of acting as a capillary network and prohibiting some of the poison entering the blood, and the blood could overcome to some extent the poison that entered, he held that the low pressure in the portal vein was conservative, and that certain toxæmias from certain obstructive diseases of the liver occurred because this blood entered the circulation in a toxic condition and led to toxæmia.

Dr. G. R. Martine, of Glen's Falls, N. Y., read a paper on

A NEW PLAN FOR THE TREATMENT OF PNEUMONIA.

Dr. Martine alluded to the many general plans of treatment.

The first abnormal symptom after the premonitory chill was quickening of the pulse and increased flow of arterial blood, and in consequence a distention of calibre in the arterial vessels, overstraining of capillary walls, and extravasation of blood corpuscles. Reduction of the temperature at this stage would not hold in check this increased flow of blood to the lungs, which, if unrestrained, was sure to end in consolidation.

Now, the whole method of the new plan could be given in five words, viz., Hold the pulse below

80. Keep your fever thermometer in your pocket; it was of little or no use in pneumonia.

Death did not result from high temperature in pneumonia, but from high arterial action, resulting extravasation and consolidation and consequent heart-failure.

In holding the pulse veratrum viride had seemed to serve the reader best, yet he admitted that other arterial sedatives might in the hands of others act as well. If the pulse be held below 80 in adults or at 100 to 120 in children, with perfect vigilance, no further trouble need be apprehended; for in that condition there would be no extravasation, if no extravasation no consolidation, if no consolidation no hepatization, and if no hepatization no suppuration, mortification, or death.

Heart-failure in uncomplicated pneumonia would be a thing impossible, provided this plan be followed.

DISCUSSION.

DR. ATKINSON, Baltimore, objected to the claim made for veratrum viride in the treatment of pneumonia. Veratrum viride had undergone severe tests and had not, he thought, yielded the results claimed in the paper.

In pneumonia patients died not so much from filling up of the lung with blood as from failure of the action of the heart, and it was this failure that we must guard against in treating our patients. He did not think a remedy capable of depressing the action of the heart was one especially to be recommended in cases where the very condition of depressed heart-action was the one we must dread.

DR. HARE, Philadelphia, thought the great trouble in the use of veratrum viride in pneumonia was that the fact of two diametrically opposite conditions in this disease was lost sight of. In the first stage of pneumonia there was a perfect "rush" of blood into the lung due to over heart-action, and it was in that stage the veratrum viride should be given to abort, not to cure, the pneumonia. In the second stage, where the heart's action was weak, digitalis was indicated.

In regard to the poisonous properties of veratrum viride, there were only four fatal cases recorded. This was owing probably to its emetic action, and the emetic action was the element in the cardiac depression. When veratrum viride proved fatal it was through depression of the respiratory centre, not by depression of the heart.

DR. G. R. MARTINE, in closing the discussion, claimed that his plan was new in this, that no writer had told us when to hold the pulse and prevent consolidation and consequent heart-failure. Heart-failure would not come on in pneumonia if the patient were properly treated and the pulse held. When the lungs became filled with blood we began to get heart-failure. The right side of the heart, in trying to force the blood through, became fatigued. His plan prevented the filling of the lungs with blood and consequent heart-failure. He had treated pneumonia in this way thirty years, and he did not expect to lose an uncomplicated case of pneumonia any more than a case of toothache.

DR. JOHN H. MUSSER, of Philadelphia, read a paper on

SOME CLINICAL ASPECTS OF VOMITING.

Dr. Musser called attention to the mechanism of vomiting, saying it was a reflex act due to excitation of a vomiting centre situated in the medulla in intimate relation to the respiratory centre. Motor influences were transmitted from the centre to the abdominal and thoracic muscles, to the œsophagus and cardia, causing its relaxation, and to the pyloric end of the stomach, causing its closure. Excitation of this centre was made by impulses derived by afferent nerves from various organs of the body. It was shown that the vomiting may be toxic in origin, may be from organic change about the centre, as tumors, abscess, etc Lastly, it was reflex from affections of the brain and of various organs, all of which were detailed.

Attention was called to morning vomiting, and causes other than those usually mentioned were detailed, as in sewer gas poisoning; to vomiting due to subacute naso-pharyngeal catarrh, and to ovarian and uterine vomiting, etc.

Some special clinical aspects of vomiting were then detailed, and it was insisted upon that in affections of various organs vomiting might for some time be the only marked symptom, and particularly if the function or structure of an organ was not interrupted. Cases of pneumonia, peritonitis, intestinal obstruction, etc. were detailed, and vomiting that attends apoplexy described.

Regarding the relation of this symptom to cerebral hæmorrhage the following conclusions were presented: —

1st. That constant vomiting in the aged, painless, with or without nausea, with no evidence of indigestion or acute gastritis, the ejection composed of mucus or a watery fluid, was often one of the first symptoms of central hæmorrhage.

2nd. Such vomiting was not attended with the usual symptoms of relaxation and with the sthenic phenomena which usually attended apoplexy.

3rd. If the usual collapse symptoms occurred in a person of that age the vomiting was more likely to be due to a uræmic origin.

4th. If the respiration was altered in rhythm, or was of normal frequency or hurried, because of the intimate relation of the centre of vomiting and the pneumogastric centre, the cause was doubtless a central hæmorrhage. Hurried breathing attended the acute vomiting of other causes.

5th. The occurrence of vertigo was not of special significance.

6th. The prognosis was very grave in such cases.

Habit vomiting, so called, was then described.

DISCUSSION.

DR. C. G. STOCKTON, Buffalo, N. Y., said that one point particularly struck him, and that was vomiting in connection with naso-pharyngeal catarrh. He thought also that chronic gastric catarrh was a common accompaniment of naso-pharyngeal catarrh, and that vomiting in these cases in his experience had almost always been accounted for by the gastric catarrh.

DR. W. G. SCOTT, Ohio, said that in his experience patients who vomited at any time — in the midst of a meal or after a meal, etc. — always had some

trouble with the stomach, and frequently we had catarrhal condition, the secretions of the stomach changed entirely.

DR. I. E. ATKINSON, of Baltimore, read a paper on

SOME OF THE RARER AND GRAVER FORMS OF CINCHONISM.

DR. Atkinson devoted most of his paper to detailing cases in which cinchonism had occurred from the administration of rather large doses of quinine, also cases where quite marked symptoms had resulted from small and often-repeated doses. His general conclusion was that the physician should use caution in repeating the larger doses, owing to the risk of amaurosis and other symptoms indicative of poisoning by quinine. Oftentimes smaller doses were efficient, and it should not be the routine practice to employ large doses; and when large doses were indicated the use of quinine subcutaneously would be a good substitute, as the dose was much smaller when so used.

DR. HARE, of Philadelphia, called attention to one explanation why cinchonism did not result oftener from large doses of quinine; it was due to the fact that it often passed the pyloric orifice without being acted upon, was precipitated and passed out with the stools, not having been absorbed.

DR. W. G. SCOTT, Ohio, said large doses were by no means always innocuous, and were not always passed out without being dissolved.

In treating malignant intermittent fever small doses would not arrest the fever, and people had died, he thought, for want of a good large dose. He had never seen cinchonism or bad effects from the legitimate use of quinine. Such a remedy, however, which exerted such an influence upon the central nervous system, if not needed, might do harm.

DR. J. H. MUSSER, Philadelphia, said it had been found that ordinary cases of intermittent fever seen in the neighborhood of Philadelphia could be controlled with smaller doses than were formerly given. One grain three times a day had been found, by Dr. Osler's experiments, to be efficient in causing the disappearance of the changes in the blood.

DR. W. S. TREMAINE, U. S. army, thought the size of the dose depended entirely upon the locality and what one had to deal with. If the malarial poisoning was intense, large doses were indicated; if mild, small doses might suffice.

DR. ATKINSON, in closing the discussion, said he did not wish to raise a question against quinine in large doses, but simply that the administration of large doses was not without very serious danger, although bad effects were rare.

No doubt large doses of quinine often passed through the alimentary canal unabsorbed; and the old practice of giving a large dose of calomel before giving quinine was justified in that it cleared out the upper portion of the intestinal canal of its alkaline contents and kept the contents of the stomach acid, and thus facilitated the absorption of the quinine. When amaurosis resulted from large doses of quinine, although it might never be complete, yet it might result in such permanent damage to the eye that in his opinion only the greatest emergencies justified the lavish giving of this drug, and where large doses were necessary it was better to give smaller doses under the skin than enormous doses by the stomach.

DR. ROBERT T. EDES, of Washington, read a paper on

HYDRONEPHROSIS AND RENAL ATROPHY; ESPECIALLY AS RESULTING FROM FUNCTIONAL DISTURBANCES OF MICTURITION.

The ordinarily recognized mechanical causes of hydronephrosis were stated. Systematic authors admitted that there were cases not explicable by any of these causes.

Two cases were reported.

1. A boy with frequent micturition but probable retention of urine, who presented symptoms of interstitial nephritis, and was found, after death, to have a large bladder, dilated ureters, atrophied kidneys, and hypertrophied heart, no mechanical obstacle being present.

2. A little girl with albumen, casts, and pus in the copious, light urine was noticed to have some difficulty in micturition. After dilatation of the urethra the casts soon disappeared and later the albumen.

The back pressure of urine necessary to produce moderate hydronephrosis with renal atrophy was not great.

The bladder was a portion of the apparatus necessary for the discharge of the urine, and was not to be regarded simply as a passive reservoir.

In order that it might perform its function properly a certain balance between the nervo-muscular apparatus promoting the discharge (detrusor urinæ) and that restraining it (sphincter vesicæ) was necessary. If this balance was disturbed either by paralysis of the detrusor or by spasm of the sphincter, pressure was thrown back toward the kidneys and dilatation of the passages took place, followed by renal irritation and destruction of the parenchyma.

In the constantly recurring spasmodic action of the bladder in cystitis, with the consequent exaggeration of the intravesical pressure, the same thing might occur, with this modification, that the urine which was backed up being mingled with inflammatory products, the result was a pyonephrosis, rather than a hydronephrosis.

It is suggested that some cases of interstitial nephritis in the young, even when accompanied by hypertrophy of the heart and not differing greatly in symptoms from the disease which was more familiar in persons in middle life, might have a local origin in unrecognized causes of this kind, rather than the constitutional changes so prominent in the etiology of the Bright's disease of later years. A few cases were to be found in medical literature bearing on the subject of the paper.

SECTION OF SURGERY.

First Day — Tuesday, June 25th.

THE address in this section was by the chairman, DR. N. P. DANDRIDGE, of Cincinnati, on

THE SURGERY OF THE SPINAL CORD.

It is only within a few years that the surgery of

the spinal cord may be said to have come into being. The surgeon of a former generation never thought of opening the spinal canal for the removal of the effects of injury, or for the cure of disease. The method of treating Pott's disease by extension is also a modern method.

There are certain lesions, as tumors, where without an operation the surgeon is powerless to render aid. In Pott's disease simple extension sometimes works wonders; sensation and motion, previously lost, return after application of a plaster jacket and suspension. Instances were cited where a paralysis of eight months' duration was cured by this method; in one case the patient had been paralyzed for two years.

Resection of the spinal arches of certain of the vertebræ by relieving pressure (removal of a clot, of certain exudations, etc.) has often enabled the spinal cord to recover its functions.

Fractures of the vertebræ are not as fatal as they were once believed to be; 21% survive, and of this number 10% make a good recovery, while 11% are completely disabled. Extension has given good results in some cases of vertebral fractures; trephining has been attended with only partial success.

Of the various modes of extension, the hammock suspension had been especially successful in the practice of the reader.

In fractures of the cervical vertebræ any displacement should be rectified at once; in dorsal and lumbar fractures there may be a reasonable delay, and here suspension, with the plaster jacket, sometimes works wonders. Marked depression of the arches and laminæ calls for instant trephining.

DR. W. H. PANCOAST, of Philadelphia, spoke of the importance of extension in fractures of the spine. There are cases of fracture of the vertebræ that cannot be diagnosticated during life. Again, there are cases of death due to shock where the bones and ligaments are intact. Dr. Pancoast is confident, from many observations which he has made, that often in cases of hanging the person dies from shock without fracture; there is not even rupture of the ligaments.

The next paper was by DR. H. H. SMITH, of Philadelphia, on

CONCUSSION OF THE SPINE IN ITS MEDICO-LEGAL ASPECT.

The legal liability of capitalists and corporations for damages for neglect to provide for the safety of individuals who have entrusted their persons and their lives to their care may be seen to date from Lord Campbell's Liability Act in 1848. Since this time the various States of the Union have incorporated in their ordinances statutes making companies and corporations liable to damages for loss of business and time, for physical injuries sustained by persons through ignorance, carelessness, and neglect of officials or employees. Since then incalculable sums of money have been paid, especially by railroad corporations. Juries are almost certain to find against these corporations, and physicians have not always placed themselves in an attitude of impartiality when called to testify in behalf of their clients.

The reader believed that the professional opinions of twenty years ago on the vexed question of concussion of the spine are now utterly unreliable, nor does he think that Erichsen should longer be regarded as an authority on the subject. There has been a great advance in the knowledge of the histology (normal and morbid) and symptomatology of the spinal cord within the last two decades. He asked, "Does the so-called 'railroad spine' exist?" and while believing that there is such a theory as spinal concussion with no recognizable organic lesions, where only molecular disturbances are assumed to exist, yet he does not hesitate to affirm that such cases are extremely rare. Fraud is very common. According to Hodges' estimate, out of forty-nine cases thirty-six were proved to be fraudulent. Most cases are attributable in the last analysis to hysteria or malingering. The reader was of opinion that serious organic disease very seldom follows concussion; and if the symptoms were simply subjective, if there were no organic manifestations, as loss of sensation and motion, loss of reflex excitability, vaso-motor disturbances, muscular atrophy, he should doubt the existence of any serious injury. Any grave lesion of the cord will certainly be followed by objective symptoms, and these will ensue soon, in a few hours or days, not months, after the injury. He gave from his record-book instances in support of this statement, but here the morbid phenomena accompanied grave myelitis with softening, the result of the injury. He did not believe that jars from travelling, as when cars are coupled with too much violence, ever cause such lesions. A severe shock to the spinal cord may give rise to hæmorrhage, or effusion, to some form of myelitis with more or less paralysis and muscular atrophy, but in such cases we have something besides subjective symptoms for a guide. It is true, however, that sometimes a pre-existing neurasthenia may be awakened and aggravated, or a latent hysteria developed into active exercise. The physician should weigh well the probabilities of these conditions in any give case, as well as the chances of fraud and dishonesty on the part of the patient.

DR. HERBERT JUDD, of Galesburg, said that the question of concussion of the spinal cord had become a matter of business, in the pursuit of which ignorant or unscrupulous physicians in concert with knavish lawyers and dishonest laymen "bled" the railroad companies; millions of dollars had, in fact, the past twenty-five years been paid to settle claims that were for the most part fraudulent. For all this such authorities as Erichsen were largely to blame. Generally there are nothing but "subjective" symptoms to substantiate these claims. We ought always to suspect imposture where there is no paralysis, no muscular atrophy, or other objective manifestations.

This business is demoralizing society. It is by no means uncommon for a person with a reputation for honesty and truthfulness to "nurse" a really trivial injury into a permanent disability, and impose on even the wary physician; thousands of dollars damages are obtained, and the patient speedily gets well. People than lose confidence in the honesty and competence of physicians; and the medical profession is brought into ridicule. This matter of spinal concussion is largely a "bugaboo."

More people are annually injured by ordinary vehicles (as by upsets) than by railroads, but how seldom do we see spinal concussion follow; he doubted whether there be such a thing as spinal concussion as some authors have described it.

DR. WILLIAM BRODIE had seen so much of the unfairness and injustice of juries towards railroad companies, that he now advised railroad officials to settle instantly by a money payment whenever a complaint was made of injury received on a railroad by cars running off from the track, or in any other way.

DR. B. A. WATSON said that he did not believe in spinal concussion as Erichsen describes it. Is there such a disease analogous to concussion of the brain? If there be such a disease it is extremely rare. That the spinal cord sometimes receives severe injury from blows, falls, the force of a nearly spent bullet, the impact of sea-waves, etc., he fully believed, but in such cases there are generally fractures of vertebræ, rupture or stretching of ligaments, hæmorrhagic extravasations, etc., which produce decided and more or less permanent objective symptoms. Even in the case of the existence of the latter, the physician should be on his guard, and satisfy himself that the paralysis or muscular atrophy was not produced by some other cause.

In his (Dr. Watson's) experience, railroad accidents more frequently cause injuries of the viscera than of the nervous system. The lungs are lacerated, or contain hæmorrhagic infarctions; there are lacerations of the liver or spleen, ruptures of blood-vessels in the bladder or other viscus.

DR. PENROSE, of Philadelphia, communicated to the association a paper on the same subject, which was read by the secretary. The views advanced were similar in kind to those above presented. He thinks that spinal concussion analogous to cerebral concussion is almost unknown. He protests against the robbery of cities and corporations by claimants who have nothing but pain or other subjective symptoms to substantiate their claims.

DR. W. H. PANCOAST had a word to say in defence of the general public who have certain rights of protection which they may justly demand of railroad officials. He did not believe that there had been as much shamming as had been represented by previous speakers. He had some faith in spinal concussion as the older authorities have taught it, where long disability without paralysis or atrophy follows an injury, and thinks that the victims of accidents should be recompensed for even a temporary shock and consequent sufferings.

DR. SMITH, in closing, said that the railroad companies are always ready to settle just claims. Witness the Lehigh valley awards. It is the exaggerated and fraudulent claims that they contest.

DR. M H. RICHARDSON, of Boston, read a paper on

THE SURGERY OF THE PERIPHERAL NERVES.

It was a very reliable presentation of the results in the Massachusetts General Hospital of neurectomy and nerve stretching for neuralgia and painful muscular spasm. Exsection has been oftenest performed in the inferior dental nerve, which is comparatively easy of access. In 1876 the first operation for avulsion and destruction of the whole nerve was performed, and this operation has been several times repeated since then. The buccal nerve has in several instances been divided where it comes out over the buccinator, and the inferior maxillary nerve has been cut down upon at its point of emergence from the foramen ovale, and a portion exsected. This is a rare and difficult operation. Nerve stretching has been performed mainly for neuralgias of the sciatic. The operation has been five times performed in the Massachusetts General Hospital; the results have not been favorable. He does not think that traction stretches the spinal cord. In neuralgias of the inferior dental nerve, stretching has done good in a few cases. Muscular spasm has in some instances been relieved by nerve stretching, *e.g.*, stretching of the facial for tic douleureux, stretching of the supraorbital nerve for spasm of the brow muscles, of the spinal accessory for spasm of the sterno-mastoid and trapezius.

There have been seven cases of nerve suture; these pertained to the median, ulnar, and musculospiral nerves, and this operation was attended with marked though very gradual return of power and function. The nerve ends must be freshened, brought loosely together, and a few fine catgut or silk sutures put in.

DR. W. H. PANCOAST spoke of neurectomy of the fifth nerve, as performed by his father, the late Dr. Joseph Pancoast. The latter was the first to reach the inferior maxillary nerve trunk by sawing through the condyle, and to cut it close to the foramen ovale. He (the speaker) had made several exsections of the sciatic and crural nerves in obstinate neuralgias.

DR. GORDON, of Portland, said that he had several times stretched both sciatic nerves, then the anterior crural, for the *douleurs fulgurants* of locomotor ataxia; the operation was attended with great relief.

SECTION ON OBSTETRICS.

First Day.

President, DR. W. H. WATHEN, of Louisville, Ky.; secretary, DR. A. B. CARPENTER, of Cleveland, Ohio.

CHRONIC INVERSIONS OF THE UTERUS

was the subject of a paper by DR. HENRY O. MARCY, of Boston, who presented numerous illustrations of this trouble in crayon drawings, and made a very interesting talk and demonstration. He sketched somewhat briefly the history of chronic inversion of the uterus and its etiology, and then discussed more fully the pathological changes which ensue. He somewhat critically reviewed the experience of Dr. Thomas and his followers in first performing laparotomy in order to dilate the cervical constriction and thus aid the reposition of the organ. He had studied the matter faithfully and at last came to the conclusion to pass long ligatures of coarse silk deeply through the cervical tissues which he determined were possessed of ample resisting power. The doctor presented an instrument, simple, yet possessed of sufficient power for the work. It has at the distal end a cup-shaped extremity for the reception of the fundus. The deep cervical ligatures, four in number, are attached to a movable sleeve adjusted upon the shaft of the instru-

ment. By means of a screw in the handle pressure is brought to bear upon a concealed spring and the force applied is at once determined upon a graduated scale, showing the amount of pressure. Dr. Marcy reported one case which came under his care during the past year. Dr. Clark, of Cambridge, Mass., and Dr. Cleveland, of New York, spoke in terms highly complimentary of the instrument.

DR. E. E. MONTGOMERY, of Philadelphia, read a paper on

THE INDICATIONS FOR AND LIMITATIONS OF THE OPERATION FOR THE REMOVAL OF THE UTERINE APPENDAGES.

He concluded that the operation should be promptly performed in every case in which it is evident that relief cannot be otherwise obtained. It should be considered a *dernier ressort*, and its consideration should be dismissed in every case capable of restoration to health by other plans of treatment.

DR. JOSEPH PRICE, of Philadelphia, read a paper on

A SERIES OF FIVE HUNDRED CASES OF CONFINEMENT IN A MATERNITY,

in which he gave the minutiæ of the treatment in a maternity hospital in Philadelphia with which he is connected. The treatment was after the highest and most approved method of cleanliness. He said the talk a few years ago was to abolish the lying-in hospitals on account of their terrible mortality. The tables are now turned, and the greater mortality is in the private practice. He wished to invite a discussion which would lead to more refinement in the technique of the treatment of labor.

DR. THOMAS OPIE, of Baltimore, had visited the maternity spoken of and found it unique. He had great hopes for the future in this line.

DR. HIRST, of Philadelphia, considered the plumbing of great importance. In an infirmary where he practised he had the closets put in towers where the ventilation was excellent, and had noted within twenty-four hours a fall of temperature. He had found the mortality to be very great in tenement houses where the plumbing was at fault.

DR. W. T. LUSK, of New York, thought that the practitioner should hold himself responsible for the plumbing of the house in which he delivered patients.

DR. HENRY D. FREY, of Washington, D. C., read a paper on

THE APPLICATION OF THE FORCEPS TO TRANSVERSE AND OBLIQUE POSITIONS OF THE HEAD; DESCRIPTION OF A NEW FORCEPS.

He had sent circular letters addressed to the teachers of obstetrics in the United States asking their practice in these conditions and the kinds of instruments they used. He gave their replies in a tabulated form. He thought the obstetrician should not content himself with one form of instrument, but be expert with several, so as to be able to use them as occasion demands.

DR. WM. S. STEWART, of Philadelphia, read a paper on

WHEN SHOULD THE OBSTETRIC FORCEPS BE USED, AND WHAT FORM OF INSTRUMENT IS REQUIRED?

They should never be used to save time or to satisfy nervous women or fidgety nurses. We should use the form of forceps best fitted to the particular case. He presented a pair of his make which he had used in a number of cases with good success. In these either blade can be introduced first, the child is not disfigured, and they do not slip.

DR. JOSEPH TABER JOHNSON, of Washington, M. C., thought that women in childbirth were entitled to all the skill of the obstetrician, and spoke in high praise of the forceps in labor.

DR. THEOPHILUS PARVIN, of Philadelphia, regarded the instrument exhibited as the revival of an old instrument, which will also become an old instrument and be revived by some one else. He thought it dangerous, that it would crush the child's head. It was an ingenious, complicated instrument, but we want simplicity. The power is too far remote from the resistance for the nearer you can get a horse to the load he pulls the better he will pull.

DR. JOSEPH PRICE, of Philadelphia, looked upon the forceps of Dr. Stewart as dangerous instruments.

DR. THOMAS OPIE, of Baltimore, read a paper on

THE KINSHIP OF OBSTETRICS AND GYNECOLOGY.

He reviewed the history of obstetrics from the earliest times and always found it closely allied to the diseases of women. He found obstetrics and gynecology bound together with hooks, forceps, and specula of steel. A few years ago the opinion was that lying-in-hospitals should be abolished. Now they challenge private practitioners with their results. Gynecology has grown out of obstetrics, an obstetric development, they are separated but not divorced; they interdigitate. The gynecologist should know obstetrics and the obstetrician should be a good gynecologist. The very nature of the gynecologist insists that he should be first an obstetrician. To know the abnormal he should first know the normal. United they stand like Siamese twins. To separate them would inflict irreparable injury. The obstetrician has long cried honestly against feticide, that old commandment, "thou shalt not kill," and the gynecologist against Onanism, the limitation of families and sterility. He considered the thought of breaking up this long-standing alliance between obstetrics and gynecology, which had taken the form of a resolution before the general sessions, sinful.

DR. H. R. STORER, of Newport, read a paper on

BENJAMIN RUSH AS AN OBSTETRICIAN.

In studying medical numismatics he had been struck with the importance of the work of Benjamin Rush in the department of obstetrics. Fifty years ago the idea of the induction of anæsthesia in obstetrics was an American idea in the mind of Rush, and he, after observing a painless delivery while the mother was in an epileptic fit, and another while the mother was intoxicated, prophesied the finding of a drug which would relieve the pains of childbirth. The writer brought this sub-

ject up before this section because he thought Rush a man who deserved well of the section in obstetrics, especially as an effort was now being made to raise him a monument. On resolution the paper was referred to the general sessions when the subject came up.

Dr. W. W. Potter, of Buffalo, N. Y., read a paper on

BORACIC ACID IN GYNECIC PRACTICE.

The doctor was first brought to the use of boracic acid by the fact that iodoform in him always caused a very troublesome dermatitis. He found boracic acid valuable when the medication was required to remain longer in the vagina than it was possible for tampons to remain on account of the decomposition. He then described minutely his method of applying the remedy, which consisted of an injection, a drying of the vagina, the application of the boracic acid with alternating layers of cotton. He, in some cases, allowed this dressing to remain a week, and thought once a week often enough for these applications. He has had good results with boracic acid after plastic operations. In these cases he leaves a rope of borated cotton hanging from the os over the perineum.

He considered boracic acid a remedy of great value in sterility due to acrid secretion which destroys the fecundating power of the sperm. It is one of the best powders to render operative wounds in the genital tract aseptic. Boracic acid is suited to many gynecic uses where an antiseptic is required.

It can claim superiority over the vaginal tampon by reason of odorless, colorless, non-irritant chemical properties; these admitting of its frequent liberal and prolonged treatment.

THE PATHOLOGY OF ECTOPIC PREGNANCY AND PELVIC HÆMATOCELE.

The president's address was delivered by Dr. W. H. Wathen, of Louisville, Kentucky. He considered that the ovum was never impregnated in the uterine cavity, and thought that the conjugation of the male and female elements must take place before or just after the ovum enters the tube. Ectopic pregnancy is always primarily tubal, with possible exception of ovarian pregnancy. Abdominal pregnancy cannot occur except as a result of primary or secondary rupture, and if the villous or placental attachments are destroyed the ovum immediately dies, because it cannot form secondary attachments to other structures. If in rupture into the peritoneal cavity the ovum retains villous or placental attachments it may be possible under certain conditions for the pregnancy to continue, though not probable. If the amnion is ruptured in the early months the embryo or fœtus will die. So-called interstitial pregnancy does not always, though usually, rupture into the peritoneal cavity. If we define pelvic hæmatocele as an encysted or confined tumor formed of blood, then intra-peritoneal hæmatocele is not possible. Then followed an extensive argument upholding these propositions advanced concerning ectopic pregnancy.

The intimate relations existing between pelvic hæmatocele and ectopic pregnancy was his reason for considering these two subjects together in his address. Nearly every author who has written on this teaches that blood may accumulate in the peritoneal cavity and become rapidly encysted and fixed by the effusion of a layer of lymph exudations. The author did not adhere to this belief.

Dr. Wm. H. Taylor, of Cincinnati, read

THE REPORT OF A CASE OF ECTOPIC GESTATION SUCCESSFULLY TREATED BY GALVANISM.

The great practical importance of extra-uterine gestation and the prominence it now holds as a topic of discussion he thought justified his contribution. The diagnosis being difficult the first essential interest centres about this point. The doctor then gave a concise review of the latest published utterances on the subject of diagnosis and symptomatology. His case was then reported.

Dr. Georges Apostoli, of Paris, France, read a paper on

SALPINGO-OVARITIS.

(To be continued.)

THE MAINE MEDICAL ASSOCIATION.

THE THIRTY-SEVENTH ANNUAL MEETING, HELD AT PORTLAND, JUNE 11TH, 12TH, AND 13TH, 1889.

First Day — Tuesday, June 11th — Morning Session.

The association was called to order by the President, Prof. S. H. Weeks, M.D., of Portland, at 10 A.M., in the Common Council Chamber, City Building.

Prayer was offered by the Rev. Wm. H. Fenn.

The report of the treasurer, Dr. A. S. Thayer, of Portland, showed a balance on hand of $632.39, less by over three hundred dollars than that of last year, a decrease due to litigation over the Medical Registration Bill.

Dr. D. N. Skinner, of Auburn, read a paper on

GLAUCOMA,

urging the necessity of early diagnosis, so as to secure the benefit of prompt operative interference by iridectomy or sclerotomy; much stress was laid upon differential diagnosis, for the reason that remedies usually relied upon in treatment of diseases likely to be confounded with glaucoma were, if used in this affection, positively harmful. As between eserine and pilocarpine, the preference was given the former, the latter frequently causing ciliary spasm.

Dr. Jason Walker, of Minot, read a paper upon

EPIDEMIC JAUNDICE IN CHILDREN,

the cause being obscure and not traceable to sanitary defects or the ingestion of irritating substances. Curiously enough, each case developed after an interval of about two weeks from the appearance of the case preceding.

The question was raised whether catarrhal jaundice might not be of microbic origin; no explanation was suggested why in the epidemics cited by the author as occurring within his observation the disease was confined to children and youth.

Dr. A. G. Young, secretary of the Maine State Board of Health, read an interesting statistical paper upon

THE PREVAILING DISEASES OF THE YEAR.

First calling attention to the refusal of the last legislature to provide any means for an adequate collection of vital statistics, as requested by the State Board of Health, the speaker gave some facts with reference to frequency and relative prevalence of disease. Pulmonary tuberculosis headed the list, followed in order by diphtheria, scarlet fever, typhoid fever, and small-pox; measles and cerebro-spinal meningitis were represented by a few cases. Small-pox occurred at Cumberland Mills primarily, secondarily at Brownfield and Deering, *presumably* from handling infected rags of domestic or English origin. Fourteen cases occurred, with two deaths; all but five of one hundred and six exposed in the rag room had been vaccinated. Of the five unprotected three were attacked by variola and furnished the two deaths.

This paper also noted the prevalence of jaundice in epidemic form in eleven towns, but not specially confined to children except as noted by the preceding speaker.

A resolution was offered by Dr. Young, and unanimously adopted by the association, offering its assistance to the census office in securing trustworthy vital statistics of this State for the next census.

DR. J. O. WEBSTER, of Augusta, also a member of the State Board of Health, read a paper on

THE SANITARY DUTY OF PHYSICIANS IN DISEASES OF THE COMMUNITY.

The speaker said the title of his paper meant "the duty of physicians in preventing the spread of disease through the community." Upon the insight, the experience, the good-will, and the sense of duty of the physician first called for the treatment of a given case of contagious disease principally depends whether the first case of such disease comes seasonably, late, or not at all to the knowledge of the sanitary authorities. Epidemics at the present day are largely due to disregard of the first principle of preventive medicine herein indicated.

Merely satisfying legal requirements by reporting such cases is of little avail or credit to him who does so, if measures are neglected looking to the discovery of the source, the etiological conditions, and the various preventive measures proper in each case.

Lack of intelligent co-operation on the part of the medical profession is almost fatal to the efficiency of a local health board.

Another element difficult to manage is the resistance opposed to sanitary placards and restrictive measures by business interests.

The problem to be successfully solved by sanitary authorities is how to secure the greatest possible prevention of commonly dangerous diseases of the people.

Afternoon Session.

The afternoon session opened at 3 o'clock with the introduction of DR. P. H. Ingalls, of Hartford, Connecticut, and Dr. A. S. C. Millett, East Bridgewater, Massachusetts, as delegates from their respective State societies; followed by the president's address, delivered by DR. S. H. WEEKS, professor of surgery in the Medical School of Maine.

He reviewed the present law regulating the supply of material for the study of practical anatomy and showed it to be essentially prohibitory from its unreasonable requirements; he urged an attempt to secure its amendment by reducing the time of keeping bodies subject to the wishes of friends from three days to five days.

The decision of the Supreme Court adverse to the position of the association in relation to the late Registration Act was announced, and the association advised to formally undertake the preparation of a new bill for presentation to the next legislature.

The removal of the Medical School of Maine to Portland was insisted upon as necessary to its continued vitality and usefulness.

DR. S. C. GORDON, of Portland, read a paper on

PREGNANCY AND OPERATIVE SURGERY: THEIR MUTUAL RELATIONS,

arguing that general surgical operations, and even those of a special nature, upon the uterus and appendages are permissible, provided hæmorrhage into the cavity of the uterus be prevented.

Operations remote from the pregnant uterus, however trivial, should be done under anæsthesia by ether. No operation should be made upon or near the uterus, unless imperatively demanded by the condition of the patient, until after confinement; but experience and accidental operations have demonstrated that operative interference may be safely made.

The speaker said that, while there was much less to fear now from minor operations than before antiseptic measures were inaugurated, there still remains the danger of septicæmia, which is always a powerful cause of abortion or premature labor.

DR. JAS. A. SPALDING, of Portland, read a paper upon

MERCURY CONSIDERED AS AN AGENT IN GENERAL THERAPEUTICS.

Evening Session.

DR. I. T. DANA, of Portland, read a paper on

APOPLECTIFORM SEIZURES, DISCUSSING FOUR TYPES, THE EMBOLIC, THE HÆMORRHAGIC, THE CONGESTIVE, AND THE URÆMIC.

Apart from some interesting remarks by Dr. H. G. Beyer, U.S.N., upon cerebral localization, the discussion brought out nothing but conventional methods of observation and treatment.

Second Day — June 12th — Morning Session.

The association met at 10 o'clock. A telegram of congratulation was received from the Oregon State Medical Society, in session at Portland, Oregon, and was answered by a like message.

DR. R. D. BIBBER, of Bath, reported a case of obscure disease of the brain, which post-mortem examination showed to have been extensive both in cortex and medulla, but attended by few definite symptoms.

DR. G. A. PHILLIPS, of Ellsworth, read a paper upon

CASES OF WILD-PARSNIP POISONING.

Botanically and in physiological action this plant

resembles the water-hemlock. It is the *pastinaca sativa* of Gray.

The poison takes effect in direct ratio to the rapidity of the digestive powers in children, about two hours after the ingestion of the root. The symptoms are flushing of the face, mental dulness, followed soon by twitching of the extremities and severe convulsions, with coma, pupils widely dilated, respiration shallow, pulse weak, rapid, and thready, tongue dry and swollen. Treatment was by opium and prolonged etherization, after emetics and enemas.

Death occurs in cases not promptly relieved. Strong infusion of the root injected under the skin of a cat had no other effect than to widely dilate the pupil.

Dr. Phillips was requested by the association to continue his study of the plant and report at the next annual session.

Dr. E. T. Nealey, of Bangor, read a paper on

THE RELATION OF MICRO-ORGANISMS TO INJURIES AND SURGICAL DISEASES.

He confined himself principally to the question, "Do bacteria, pathogenic or non-pathogenic, exist in the human healthy body?" and argued in the affirmative.

Dr. E. E. Holt, of Portland, read a paper on

TREATMENT OF ULCERATION OF THE CORNEA,

laying special stress upon the necessity of careful differential diagnosis, and its importance in determining the selection of proper remedies.

Dr. Abiel Libby, of Richmond, reported a case of puerperal convulsions relieved by venesection. The discussion showed that the general preference in treatment was for morphia and anæsthesia, placing little dependence upon chloral and bromides.

Second Day — Afternoon.

Officers were elected as follows: —

President, Dr. B. F. Sturgis, Auburn; first vice-president, Dr. A. L. Hersey, Oxford; second vice-president, Dr. R. D. Bibber, Bath; corresponding secretary, Dr. J. L. M. Willis, Elliot; the treasurer, Dr. A. S. Thayer, and permanent secretary, Dr. Chas. D. Smith, hold over, being elected for a term of years.

Dr. H. F. Twitchell, of Freeport, read a paper upon

PLEURITIC EFFUSIONS,

supplemented by another by Dr. J. A. Donovan, of Lewiston, on

DOUBLE TYPHOID PNEUMONIA FOLLOWED BY EMPYEMA.

Opinion embodied in the discussion seemed to be in favor of aspiration of effusions as soon as it was evident that absorption was not progressing. Dr. S. C. Gordon, of Portland, emphasized the advisability of evacuating purulent cavities through an opening secured by resection of a portion of one or more ribs, in preference to puncture through an intercostal space. He mentioned a modification of the usual method of closing abscess cavities, as devised by him, which consisted in dividing the chest wall at the junction of the ribs with their cartilages, allowing the chest to completely flatten.

Dr. E. H. Hill, of Lewiston, read a paper urging the establishment of a general hospital at Lewiston or Auburn, to meet the demand created by a large manufacturing population.

Dr. A. K. P. Meserve, of Portland, presented the necrologist's report, containing obituary notices of Dr. J. Q. A. Hawes, Hallowell; J. S. Cushing, Skowhegan; Galen J. Tribon, Steuben; Rufus K. Cushing, Bangor; Geo. H. Chadwick, Portland.

The evening session was devoted wholly to the

ANNUAL ORATION,

by Dr. F. E. Hitchcock, of Rockland, the subject being

EUTHANASIA.

He considered in detail natural anæsthesia, as exemplified by asphyxia, coma, syncope, and similar conditions; artificial anæsthesia by drugs; euthanasia in its relations to the death penalty; and the limitations of the physician's right to contribute to painless death.

Following the oration, the members, ladies, and invited guests were entertained at an elaborate reception given by the retiring president, Dr. Weeks, at his residence on Congress street.

Thursday, June 13th.

The closing session opened at 10 o'clock A.M. and was occupied with committee reports, appointment of standing committees, and listening to the final report of the board of censors. Dr. D. A. Robinson, of Bangor, was selected as orator for the session of 1890.

Delegates were appointed to the American Medical Association, the State medical societies of the New England States, New York, and New Brunswick, and visitors to the Medical School of Maine, the Portland School for Medical Instruction, and the Maine Insane Hospital.

Following the report of the special committee on the president's address,

Committees were appointed to secure an amendment to the existing law governing anatomical study, and to draft and present to the next legislature a new bill providing for medical registration.

The following resolutions were given a unanimous passage: Resolved: That the cause of medical education at the present day *demands* that medical schools shall offer facilities for clinical as well as didactic instruction.

Resolved: That the vitality and future prosperity of the Maine Medical School depends upon its removal to Portland, where the clinical instruction available at the hospitals and dispensary can be made a part of the education of its graduates.

The association then adjourned, to meet in Portland on the second Tuesday in June, 1890.

NEW YORK ACADEMY OF MEDICINE.

Meeting held June 20, 1889.

REPORT ON THE POLLUTION OF THE CROTON WATER-SHED.

Dr. John C. Peters, chairman of a committee consisting of Dr. A. Jacobi and S. Baruch in addition to himself, appointed at a previous meeting in regard to nuisances along the Croton water-shed, made his first report. Having referred to the

recent thorough investigation of the pollutions and liabilities to pollution of the water-supply by the State Board of Health, he said that the next thing to do was to secure the removal of such sources of contamination and the protection of the water from contamination in the future. Having been informed that under the existing laws the responsibility of the matter lay with the Department of Public Works, the committee wrote to the commissioner, Mr. Gilroy, stating that the report of Sanitary Inspector Lucas of the New York city board of health, in 1884, showed that 1874 more or less preventable nuisances had been allowed to arise, and that the recent report of the State Board of Health showed that in 1888 these had increased to 2843. These consisted largely of out-door privies and indoor water-closets which emptied directly into the city's drinking water, of the sewage of whole villages and towns, and of large hotels and boarding-houses, and of the drainage from many barnyards, stables, pig-stys, and factories, and eighty-three cemeteries. As many new summer resorts were being developed on almost all the lakes and many of the streams going to make up the Croton river, and as thriving villages were arising almost everywhere along the three railroads traversing the region, it was to be supposed that these nuisances would increase still more rapidly in the near future. Concluding with the statement that previous departments of public works seem to have been entirely unconscious of their responsibilities and duties in these matters, the letter urged the commissioner to take prompt and decisive action in regard to them.

Mr. Gilroy replied that he would do all in his power to abate the nuisances, but that his department must act under the supervision of the State Board of Health; whereupon the committee wrote to Dr. Balch, secretary of the latter, who stated that Mr. Gilroy was mistaken, and that under the laws the Department of Public Works alone had the authority to remove the pollutions. Dr. Peters concluded his report by stating that all that the committee had therefore succeeded in accomplishing thus far was to find out just where the responsibility in the matter lay, and that their efforts in the future would be directed towards stirring up the Department of Public Works to do its duty.

—The students of the ambulance corps of the New Orleans Charity Hospital have made their appearance in uniforms. The outfit consists of a navy blue suit, square-cut sack coat with brass buttons, and a white cap.

—It is said that milk producers in New York State think they see a small measure of promised relief from the present depression of prices due to over-supply, in the development of the sugar-of-milk (*saccharum lactis*) manufacturing industry. Formerly consumers of the article in this country have depended entirely upon importations from Switzerland and Bavaria, and it is only lately, and in view of the increasing demand, that an attempt has been made to supply the market with a home-made product.

THE BOSTON

Medical and Surgical Journal.

THURSDAY, JULY 4, 1889.

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THE MORTALITY IN THE CITY OF NEW YORK FOR 1888.

A PRELIMINARY report in relation to the mortality of the city for the year 1888 has just been presented to the board of health by Dr. Roger S. Tracy, the assistant sanitary superintendent, and the deductions made in it are somewhat remarkable. The sanitary police took a census of the tenement-house population during the year, which includes all the houses that are more or less constantly under the supervision of the board of health, but not the better class of apartment houses. The entire population included in this census was 1,093,701 persons, among whom there were 24,842 deaths, while the total number of deaths in the city was 40,175. The highest death-rate, 26.60 per thousand of the population, is in the district south of 14th street and west of Broadway; the next highest, 23.52, is in the district west of Fifth avenue and between 14th and 59th street, in which are situated a large proportion of the residences of the wealthiest citizens; and the third highest in the district east of Broadway and south of 14th street, the most densely populated part of the city, and containing almost exclusively a tenement-house population.

The general tenement death-rate was 22.71, while the general death-rate of the city in 1888 was 26.33, and this fact would seem to indicate that the population of the city has been under-estimated, and the quoted death-rate too high, or that all the deaths belonging in tenement-houses had not been credited to them, or else that the death-rate is actually lower for the tenement-house population than for the rest of the city; which would certainly seem most extraordinary. It might be that deaths that should have been credited to the tenement-houses have not been so credited; but of the total number of deaths in institutions, 7774, the former place of residence

of the individuals was ascertained in 3444, and these deaths have all been credited to the houses in which they had lived. In all the districts the death-rate of persons five years of age and over as a rule decreases as the number of tenants increases, while the death-rate of children under five years of age increases up to a certain point, diminishing when there are more than eighty tenants to a house. The general death-rate is highest in houses containing from sixty to eighty tenants, and this is caused by the higher death-rate among the children, which reaches in these houses 114.04 per 1000 living.

The results of the investigation are summed up by Dr. Tracy as follows: The death-rate in tenement houses is less than the general death-rate of the city. The death-rate in the large tenement houses is less than in the smaller ones. While diarrhœal diseases and diphtheria show a greater death-rate in the larger houses, phthisis and pneumonia show comparatively little difference, that difference, however, being in favor of the larger houses. The greatest general death-rate among persons over five years of age, the next to the highest death-rate from diarrhœal diseases and pneumonia, and markedly the highest from phthisis, are in the district south of 14th street and west of Broadway. The excessive mortality in this part of the city is probably connected with the great number of old houses and the dampness of the soil. These results are much at variance with what was expected. It seems to be sufficiently established that people do not live under such extremely bad sanitary conditions in the tenements as they have been supposed to.

THE AMERICAN MEDICAL ASSOCIATION'S ANNUAL MEETING.

None can more appreciate the interest of the medical meetings lately held in Newport than the country physician who looks back through a score or more of years in the dim vista of the past, to the time when he was a medical student, and realizes the immense progress which has been made in all departments of medicine and surgery, and the imperfect manner in which he has kept up with all this progress. In the various sections he saw, among the men who were to take part in the proceedings, physicians who are representatives of the profession of to-day, at whose feet he is content to sit in the humble attitude of a learner. His only difficulty was to know how best to improve the opportunity, for the programmes of all the sections were sufficiently tempting, and every one felt the embarrassment of choice where much was so good. If one chose to attend the Section on Surgery, one found no cause for regret. In fact, the programme under this head this year was remarkably good, and a wide range of subjects was discussed in a manner often singularly clear and thorough; the country physician who had his eyes and ears open could not have failed to learn more about spinal surgery and concussion, herniotomy, lithotomy and lithotrity, aseptic dressings, etc., than he could have acquired in months of desultory reading in his own office.

As is usually the case, special interest centred in the Surgical Section; speakers and auditors were enthusiastic; the discussions far exceeded the time allotted to them, and extra sessions in the evening had to be appointed to finish the work left undone in the afternoon. Valuable papers were crowded out. Members present on the evening of the 27th will not soon forget the papers on hernia, and the earnest discussion which followed; the meeting was prolonged to midnight.

The programme of the Section of the Practice of Medicine was also an uncommonly good one. Much might be said in commendation of the papers read; they were generally of an eminently practical character. Such speakers as Delafield, Osler, Pepper, Tyson, Whittaker, Edes, Vaughan, Davis, it is a great privilege to hear, even if for this purpose the country physician must travel from Texas or from Oregon.

In the Section of Obstetrics and Gynæcology fifty-five papers were announced. Of course many of these were read only by title. Leading specialists from all parts of the Union were present; several of the speakers were distinguished foreigners. If our medical Rip Van Winkle, after his long sleep of fifty years, had appeared on the scene, he would have listened with astonishment as he heard the laparotomies and hysterectomies and ovariotomies described as affairs of everyday gynæcological surgery.

The general practitioner who comes all the way from California or Washington Territory to attend these meetings will miss a great deal if he altogether skips the Section on Pædiatrics, as well as that on Dermatology and Syphilography. His first case of cholera infantum after his return home may die if he has failed to hear and profit by such a paper as that of Dr. Greenley, "On the Management of Infants during the first year," or the equally valuable paper of Dr. Brush, "On Cow's Milk for Infant Food." With regard to dermatology, the ordinary physician knows too little, and needs to be switched out of the common routine of arsenical medication and saline purgation by some such wide-awake, enthusiastic cutaneous specialists as were present at Newport. Members who listened to the address of Bulkley on the first day, entitled "Recent

Advances in the Treatment of Diseases of the Skin," were heard to speak of it in terms of great satisfaction.

Other sections, as that of State Medicine, Dietetics, Laryngology, and Otology, attracted their coteries of attentive listeners, and some very good papers were read in these sections. Country practitioners have found it highly desirable to know something about all these topics, and it were greatly to be wished that the meetings might be so arranged that, like the general sessions, only one thing would be going on at a time. Then members could step from practice to surgery, and from surgery to gynæcology, etc. But alas! such a scheme is probably impracticable for life is too short, and busy physicians cannot be induced to spend more than three or four days at a great medical meeting. Fortunately, the medical journals are able by their corps of reporters to give to their readers the best things that were said.

The addresses before the general sessions were as usual: Dr. Dawson, President, spoke of the physician of to-day, the physician of the future, medical journals, laboratory work, etc. The address on general medicine by Dr. William Pepper consisted principally of thoughts suggested by the life of Benjamin Rush. Dr. P. S. Connor gave the address on general surgery on the third day. It contrasted the surgery of the present with that of the past. Dr. W. H. Welch delivered a very admirable address in the Section on State Medicine.

In many respects the selection of Newport for the place of meeting was a felicitous one, and members found an agreeable diversion from the task of listening to so many papers in the beautiful scenery of the locality, and in the numerous excursions and other entertainments which had been provided for them. The air was cool and bracing, the weather fine. But few complaints were heard from visitors who had failed to obtain good accommodations. Some, it is true, were obliged to go to private houses to obtain lodging places. The places chosen for the general meetings and sectional meetings — Music Hall, Bellevue avenue, and adjoining rooms in the same building, and in the Newport Casino, were all that could have been desired.

The representation from the Western States was smaller than usual. Had there been a large attendance from that part of the country, in addition to those who did go, the need of more ample hotel accommodations would have made itself uncomfortably felt. The opinion was somewhat generally expressed that large centres of population and large centres of railway lines offer distinct and undeniable advantages for such meetings, — although, in the selection of Nashville for the next place of meeting, this opinion was not allowed great weight.

MEDICAL NOTES.

— We are assured by Americans living in Venice, Italy, that there would be an excellent opening there for a competent young American practitioner of medicine.

— Press despatches from Ottawa say: "A few weeks ago it was reported to the department of agriculture here, which is charged with the administration of health matters in Canada, that there were cases of leprosy prevalent in Cape Breton Island, N. S. Dr. Smith, medical attendant at the leprosy lazaretto at Tracadiz, N. B., was instructed to make a personal investigation into the matter.

This report, which has just reached the department, shows that there are three distinct cases of leprosy on the island, two women and one man. The disease has made terrible ravages on the latter, and Dr. Smith reports him to be a most repulsive looking object.

BOSTON AND NEW ENGLAND.

— A very pleasant complimentary dinner was given at Young's Hotel, Boston, on the 20th inst. at which some thirty members of the Cambridge Medical Society were present. The occasion was the celebration of the fiftieth year of continuous practice by Dr. W. W. Wellington, of Cambridge. Dr. J. L. Hildreth, president of the Cambridge Medical Society, conducted the after-dinner exercises, which were of an informal character. Dr. Wellington gave many reminiscences of his many years of practice, and he was followed by Drs. Morrill Wyman, A. C. Webber, and H. O. Marcy.

— At a meeting of the students of the Medical School of Maine, held in Brunswick, June 24, the following resolutions were formally adopted by the students: —

Whereas we, the students of the Medical School of Maine, unanimously believe that the benefits of the school are marred by the lack of clinical advantages, and for this reason many of the students are accustomed to leave the school at the end of the first or second year to finish their course in schools possessing greater clinical facilities; and

Whereas the city of Portland presents by far the best advantages of any locality in the State, both clinical and in other respects, —

Resolved, That we unanimously second the resolutions relative to the removal of the Maine Medical School adopted by the Maine Medical Association at their last session.

— Governor Ames has appointed the following members of the Metropolitan Drainage and Sewerage Commission: John Quincy Adams, of Quincy;

Asa French, of Braintree; and Hosea Kingman, of Bridgewater. All are members of the legal profession.

NEW YORK.

— At the last meeting of the New York Academy of Medicine, Dr. Walter Mendelson introduced a series of resolutions protesting against the appointment to the position of president of the board of health of an individual entirely without the sanitary knowledge requisite for a proper performance of the duties of the post, and urging the mayor of the city to reconsider his actions in the matter, and appoint some person properly qualified. On motion, the resolutions were referred to the council of the academy.

— The disinfecting corps of the New York city board of health made its first visit to Long Island City on June 25th, and many houses where there were or had been cases of diphtheria were disinfected. The mayor of Long Island City has also issued an appeal to the citizens to do all in their power to prevent the further spread of the disease.

— The board of health has called the attention of the Department of Public Works to obstructions in the sewer, and the bad drainage on the river front contiguous to Bellevue Hospital.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 22, 1889.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,571,558	760	392	26.65	12.61	18.46	.78	4.16
Philadelphia	1,040,245	400	197	21.75	20.25	20.25	4.25	2.00
Chicago	830,000	—	—	—	—	—	—	—
Brooklyn	814,505	454	286	30.80	8.14	22.00	.66	4.62
Baltimore	500,343	228	134	35.64	10.12	30.36	2.20	.88
St. Louis	450,000	—	—	—	—	—	—	—
Boston	413,567	158	55	20.79	15.12	6.33	1.28	8.19
New Orleans	250,000	—	—	—	—	—	—	—
Cincinnati	225,000	—	—	—	—	—	—	—
Washington	225,000	122	68	35.26	9.02	28.70	1.64	16.4
Pittsburg	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	21	11	33.33	14.38	23.80	4.76	—
Charleston	60,145	38	19	23.67	10.52	23.67	—	—
Portland	40,000	4	0	—	25.00	—	—	—
Worcester	78,292	22	11	27.30	22.75	13.65	4.55	4.55
Lowell	71,518	41	19	26.84	12.19	24.39	2.44	—
Cambridge	65,552	27	11	25.00	14.80	3.70	3.70	14.80
Fall River	62,647	26	11	11.55	3.85	11.55	—	—
Lynn	53,334	9	—	—	22.22	—	—	—
Springfield	40,731	19	11	47.34	15.78	36.82	10.52	—
Lawrence	40,619	18	11	27.77	16.66	11.11	—	11.11
New Bedford	37,253	20	9	12.00	8.00	8.00	—	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	9	2	11.11	22.22	—	—	11.11
Salem	29,011	8	5	—	12.50	—	—	—
Brockton	28,813	7	2	—	14.28	—	—	—
Chelsea	28,167	—	—	—	—	—	—	—
Haverhill	26,058	6	1	16.66	33.33	—	—	—
Taunton	25,170	6	1	16.66	—	—	16.66	—
Gloucester	24,263	4	—	50.00	—	—	—	—
Newton	21,553	6	—	—	—	—	—	—
Malden	19,774	8	2	37.50	12.50	—	—	37.50
Fitchburg	17,534	8	2	—	12.50	—	—	—
Waltham	17,332	1	—	—	—	—	—	—
Newburyport	13,875	2	2	—	50.00	—	—	—
Northampton	13,726	—	—	—	—	—	—	—
Quincy	13,728	9	4	11.11	22.22	—	—	—
Woburn	12,822	—	—	—	—	—	—	—

Deaths reported 2341; under five years of age 1266; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 659, consumption 277, acute lung diseases 168, diarrhœal diseases 439, diphtheria and croup 92, typhoid fever 40, scarlet fever 30, whooping-cough 20, measles 19, malarial fever 10, erysipelas 5. From scarlet fever, Philadelphia 10, New York 8, Brooklyn 7, Baltimore and Washington 2 each, Lawrence 1. From whooping-cough, Brooklyn and Boston 2 each, New York 4, Philadelphia and Washington 1 each, Gloucester 2. From measles, Philadelphia 6, New York 5, Boston 2, Baltimore, Washington, Nashville, Cambridge, New Bedford, and Haverhill 1 each. From malarial fever, New York 5, Philadelphia and Brooklyn 2 each, Baltimore 1. From erysipelas, New York and Philadelphia 2 each, Brooklyn 1. From cerebro-spinal meningitis, New York, Baltimore, and Worcester 1 each.

In the 28 greater towns of England and Wales, with an estimated population of 9,555,406, for the week ending June 8th, the death-rate was 17.7. Deaths reported 3244; infants under one year 769; acute diseases of the respiratory organs (London) 295, measles 152, whooping-cough 98, diphtheria 49, diarrhœa 67, scarlet fever 41, fever 23.

The death-rates ranged from 10.1 in Leicester to 36.1 in Preston; Birmingham 13.4; Halifax 27.0; Hull 22.1; Leeds 18.2, Liverpool 18.1; London 15.7; Manchester 30.2; Newcastle-on-Tyne 22.7; Sheffield 19.5; Sunderland 21.4.

In Edinburgh 15.1; Glasgow 23.5; Dublin 21.3.

The meteorological record for the week ending June 1, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps: —

Week end'g Saturday, June 1, 1889.	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather.*			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8 A. M.	8 P. M.		Daily Mean.	8 A. M.	8 P. M.		8 A. M.	8 P. M.		8 A. M.	8 P. M.		Duration. Hours & Min.	Amount in Inches.
May 26	30.06	49.0	50.0	44.0	96	77		78.0	N. E.	S.		20	7		C.	F.			.00
" 27	29.95	51.0	54.0	45.0	72	93		91.0	E.	S. E.		5	15		R.	R		8.40	.59
" 28	29.79	58.0	73.0	49.0	82	69		90.0	S. W.	S. W		12	7		R.	O.		15.30	2.24
" 29	30.18	54.0	68.0	42.0	67	64		78.0	W.	S. W.			13		F.	O.			.00
" 30	30.24	62.0	73.0	49.0	82	86		76.0	N.	N. W.		12			F.	O.		0.15	.91
" 31	30.20	73.0	80.0	64.0	64	83		62.0	W.	N. W.		14	12		C.	C.			.00
June 1	30.09	72.0	77.0	58.0	78	81		70.0	N. W.	N. W.		24	16		C.	F.		1.25	.41
Means for the Week	30.07																		

* O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM JUNE 22, 1889, TO JUNE 28, 1889.

By direction of the Secretary of War the extension of leave of absence on surgeon's certificate of disability granted Major WILLIAM H. FORWOOD, Surgeon, in S. O. No. 118, May 22, 1889, from this office, is further extended four months on surgeon's certificate of disability. Par. 14, S. O. 142, A. G. O., Washington, June 20, 1889.

CORSON, J. K., Major, Surgeon, U. S. Army, granted leave of absence for one month, with permission to apply for an extension of one month. Par. 2, S. O. 65, Headquarters Department of the Columbia.

By direction of the Secretary of War Major EZRA WOODRUFF, Surgeon, is relieved from temporary duty at Fort Monroe, Va., and will report in person to the Commanding Officer at Fort Hamilton, N. Y., for duty at that station. Par. 5, S. O. 146, A. G. O., June 25, 1889.

By direction of the Secretary of War the extension of leave of absence granted Captain WALTER W. R. FISHER, Assistant Surgeon, in S. O. 41, June 12, 1889, Divis. of the Pacific, is still further extended fifteen days. Par. 8, S. O. 146, A. G. O., Washington, June 25, 1889.

HOFF, JOHN VAN R., Captain, Assistant Surgeon, U. S. Army, is relieved from duty at Fort Reno, Ind. Ter., and ordered to Fort Riley, Kansas. By par. 6, S. O. 145, Washington, D. C., June 24, 1889.

BACHE, DALLAS, Major, Surgeon, U. S. Army, is relieved from duty at Fort Riley, Kan., and ordered to report to Commanding General, Department of the Platte, for duty as Medical Director of that department. Par. 6, S. O. 145, A. G. O., Washington, D. C., June 24, 1889.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING JUNE 29, 1889.

SIEGFRIED, C. A., Surgeon, detached from the U. S. S. "Quinnebaug" and wait orders.

CURTIS, L. W., Passed Assistant Surgeon, detached from the U. S. S. "Quinnebaug" and wait orders.

SMITH, GEORGE T., Assistant Surgeon, ordered to the Army and Navy Hospital, Hot Springs, Ark.

APPOINTMENT.

DR. HENRY C. COE has been appointed Professor of Gynecology at the New York Polyclinic, to fill the vacancy caused by the death of Dr. James B. Hunter.

SOCIETY NOTICE.

AMERICAN PUBLIC HEALTH ASSOCIATION.

PRELIMINARY ANNOUNCEMENT. — The seventeenth annual meeting of the American Public Health Association will be held at Brooklyn, N. Y., October 22, 23, 24, 25, 1889.

The Executive Committee have selected the following topics for consideration at said meeting: I. The causes and prevention of infant mortality. II. Railway Sanitation: (*a*) Heating and ventilation of railway passenger coaches; (*b*) water-supply, water-closets, etc.; (*c*) carrying passengers infected with communicable diseases. III. Steamship sanitation. IV. Methods of scientific cooking. V. Yellow fever; (*a*) The unprotected avenues through which yellow fever is liable to be brought into the United States; (*b*) the sanitary requirements necessary to render a city or town proof against an epidemic of yellow fever; (*c*) the course to be taken by local health authorities upon the outbreak of yellow fever. VI. The prevention and restriction of tuberculosis in man. VII. Methods of prevention of diphtheria, with results of such methods. VIII. How far should health authorities be permitted to apply known preventive measures for the control of diphtheria. IX. Compulsory vaccination. X. Sanitation of asylums, prisons, jails, and other eleemosynary institutions.

Papers upon miscellaneous sanitary subjects not included in the above list will be received by the Executive Committee, subject to the requirements of the By-Laws. Preference will be given, however, to papers upon the subjects selected by the committee in making up the daily programme of the meeting.

IRVING A. WATSON, *Secretary*.

CONCORD, N. H., May 20, 1889.

BOOKS AND PAMPHLETS RECEIVED.

Forty-first Annual Report of the Trustees of the Massachusetts School for the Feeble-Minded at South Boston, for the Year ending September 30, 1888. Boston. 1889.

The Radical Cure of Hernia. By Thomas W. Kay, M.D., Scranton, Pa. Reprint. 1888.

Proceedings of the Association of Medical Officers of American Institutions for Idiotic and Feeble-Minded Persons. Sessions: Lakeville, June 15-18, 1887; Orillia, June 19-22, 1888. Philadelphia. 1889.

Catalogue of the Albany Medical College, Medical Department of Union University. Fifty-eighth Session, 1888-89, and Announcement for Session 1889-90. Albany, N. Y. 1889.

Remarks on the Unpleasant Effects of Sulphonal. By J. P. Crozer Griffith, M.D., Instructor in Clinical Medicine in the University of Pennsylvania; Physician to St. Agnes Hospital. Read before the College of Physicians, Philadelphia, May 1, 1889. Reprint. Detroit, Mich. 1889.

Uterine Massage. By W. B. Sprague, M.D., Detroit. Reprint.

Woman's Medical College of the New York Infirmary. Twenty-first Annual Catalogue and Announcement, June, 1889. New York. 1889.

Fifty-ninth Annual Report of the Inspectors of the State Penitentiary for the Eastern District of Pennsylvania for the year 1888. Philadelphia.

Annual Report of the School Committee of the Town of Tisbury, Mass., for the Year ending March 31, 1889.

Constitution and By-Laws of the New Mexico Medical Society, with History. Las Vegas, New Mexico. 1889.

Original Articles.

CASE OF POISONING BY WATER GAS, WITH NEW METHOD OF TREATMENT; RECOVERY.

BY D. A. CLEAVELAND, M.D., MIDDLETOWN, CONN.

The subject of the use of water gas as an illuminating agent has been attracting much notice for several years past, and within the past six years the interest in the subject has greatly increased, owing to the persistent efforts which have been made by interested parties to introduce plants for its manufacture in those States whose citizens have been protected from its direful effects by statute laws.

This has been notably the case in Massachusetts, the only State, with one exception, in the country whose policy it has been to protect its citizens from dangerous adulterations of most of the articles in daily use, and which are among the necessaries of life.

Consonant with this policy, as is perhaps well known to most of your readers, a law was enacted by the Massachusetts legislature in 1880, prohibiting the sale of illuminating gas containing more than 10 per cent. of carbonic oxide.

Probably to this statute law, and the discussion growing out of an attempt to secure its repeal, we are largely indebted for the valuable investigations which have been prosecuted in relation to the poisonous nature of water gas.

For, under the stimulus of a threatening evil, with characteristic energy and thoroughness, commissioners were appointed in Massachusetts, who, acting in unison with the State Board of Health, deduced from scientific observation and actual experiments upon living animals facts which have clearly proved the dangerous nature of the gas, and largely enriched the literature of this subject.

It has been left to the citizens of those States unprotected by any legal provision against the sale of this dangerous compound to learn by experience the fatal effects following its use, either by the careless and forgetful or those bent upon suicide.

During the past six years, while acting in the capacity of medical examiner for this city, I have been called in a number of instances, both ante-mortem and post-mortem, to persons who were poisoned by the inhalation of water gas.

The symptoms presented by persons affected by the inhalation of this gas do not differ widely from those seen in persons who are deeply unconscious from the effects of other lethal poisons, except that the coma is more persistent and profound, and continues for several hours, with no marked change until near the end of life; then a sudden change in the respiration, a rapid failure of the heart's action, then a few forcible respiratory movements and the breathing suddenly ceases and the patient is dead. A brief inquiry in relation to the nature of water gas is perhaps proper, even though it weary some in the profession who are already familiar with the subject, as it will lead to a better understanding of its peculiar toxic influence.

It would not be in accord with my purpose, which is to make this article as brief as possible consistent with the importance of the subject, that I should enter into a discussion of the nature of all the chemical elements of which this gas is composed. Neither is it necessary, as the whole subject has been ably treated by several learned gentlemen, and its literature is full and comprehensive.

I shall therefore confine myself to the especial toxic element, carbonic oxide.

As long ago as 1875 the mayor of Boston appointed Charles F. Choate, Esq., and John T. Osgood, Esq., of Boston, and Prof. Edward S. Wood, of Cambridge, commissioners to inquire into the subject of gas manufacture.

In their report made the following year, speaking of water gas they say: "In reference to the poisonous nature of this gas, the constituent carbonic oxide is one of the most active poisons, producing when inhaled speedy death. . . . It forms a compound with the red coloring matter of the blood, which is more stable than that formed by carbonic anhydride, and it cannot be readily decomposed by oxygen."

In 1885 Dr. Samuel W. Abbott, secretary of the Massachusetts Board of Health, in his report for that year, shows that Bernard and Hoppe-Seyler demonstrate that "carbonic oxide displaces the oxygen from the blood, and enters into combination with the red coloring matter in such a manner as to render it incapable of absorbing more oxygen."

Profs William M. Sedgwick and William Ripley Nichols, of the Massachusetts Institute of Technology, made a careful study of the relative poisonous effects of coal and water gas, under the direction of the Massachusetts Board of Health in 1885, and verified the statements contained in their report by actual experiments upon living animals, both in this city and at Athol, Mass.

I will quote a single paragraph from that report. Speaking of carbonic oxide they say: "It exerts, for example, a direct action upon the living blood-cells of the animal body, depriving them of the power of performing their normal functions, and if present in sufficient quantity speedily undermines the functions of the whole body.

Dr. E. A. Down, one of the assistant physicians to the Connecticut Hospital for the Insane, contributed a paper to the Connecticut Medical Society, which will appear in the Transactions of the society for the present year, in which, besides referring to the case which is herein reported, he gives an able exposé of the whole subject relating to the toxicology and general characteristics of water gas.

An analysis of the two gases most used for illuminating purposes shows that coal gas contains 5.53 and water gas 27.46 per cent. of carbonic oxide.

This is the average obtained from several analyses of gases from different localities. The gas supplied to this city averages 30.33 of carbonic oxide.

This carbonic oxide is the especial toxic element with which we have to do when called to a case of poisoning by either coal or water gas; but as coal gas contains less than 6 per cent. of carbonic oxide we ordinarily find but little difficulty in resuscitating persons under its influence, providing they still breathe. For the changes in the red corpuscles of the blood are so slight, that a free inhalation of

oxygen, with the employment of heart stimulants, will generally restore the patients.

This is not the case, however, with those deeply affected with the inhalation of water gas, as will presently be shown.

Considering, then, the deadly nature of water gas, and the perils attending its use, either as an illuminating agent or for fuel purposes, and in view of the fact that all the methods hitherto employed to resuscitate persons who have become deeply affected by its inhalation have been, so far as I have been able to learn, entirely unavailing, all the patients having died, it has occurred to me that the presentation of the following typical case may not be without interest and perhaps profit to the medical profession, especially in those localities where water gas is in use.

At 12.30 P.M., on the 27th of last March, I received the following telephone message from Dr. Olmstead, superintendent of the Connecticut Hospital for the Insane, located about a mile out of the city: —

"We have two cases of poisoning by water gas. One we think will recover, but the other is considered moribund. As you are interested in such cases, and will have to see the patient post-mortem, perhaps you would like to see her ante-mortem."

I hurriedly responded to the courteous invitation, and on my arrival at the hospital learned that Mary Fleming and Mary Doughty, two laundry women in the hospital, were discovered at 7 A. M., six hours previously, unconscious from having inhaled water gas that escaped into their room while they were probably asleep.

The Doughty woman was lying near a partially opened window and in a direct line between the window and a ventilator in the door which opened into the corridor. She was not so deeply affected as the other woman, and slowly regained consciousness.

The Fleming woman, who was found lying upon her bed in a corner of the room remote from the windows, was the one referred to as being moribund.

There were in attendance upon this woman Drs. Noble, Fisher, and Down, all of whom had worked diligently in their endeavors to save her life, from the time she was discovered until I arrived, a period of about six hours.

Artificial respiration had been kept up almost continuously, with the patient constantly exposed to a current of fresh air. Besides this there had been about twenty feet of pure oxygen administered by inhalation.

Hypodermics of ammonia, atropine, and other heart stimulants had been freely employed, and all this without the least appreciable effect.

The patient was in a profound coma. The countenance livid, the extremities cold, and in fact but little if any warmth of any part of the body that was exposed. The coma was completely anæsthetic, and there was an entire suspension of all sensory functions. The pulse would beat eight or ten times with a fair fullness and then run down to a mere flutter, and for a moment be entirely lost at the wrist. Then again there would be a few quite forcible beats, followed by the rapid diminution and entire suspension.

The respiration corresponded in character, if not in rhythm, with the pulse, there being a few forcible respiratory movements, succeeded by a rapid diminution in their depth until they would cease altogether. Then a sudden forcible inspiration would follow, to be succeeded by the rapid decline and suspension.

There were facial spasms of the right side and large dilatation of the right pupil.

Mucus was collecting in the trachea, giving rise to what is known as the death-rattle.

Hurriedly taking in the situation, and with a brief consultation with the physicians present, who agreed with me that if any further measures were to be tried there was no time to be lost, and in consonance with views expressed at a consultation with these physicians over a previous case, I proposed that I be permitted to transfuse her at once, which proposition met with ready approval.

There being no transfusion instruments at hand, and as time was precious, I called for a clean Davidson's syringe, an aspirator needle, a file, a whetstone, some warm fresh milk, all of which were promptly furnished. Cutting off the point of the needle and smoothing the end with the whetstone, and having the needle attached to the nozzle end of the syringe, the necessary apparatus was complete. Then applying a bandage above the right elbow I opened the median cephalic vein and drew about ten ounces of blood.

As the vein was opened there was a spurt of blood that flew two or three feet, then dwindled down to a mere dripping. Then it would well up again for a moment and then recede to a mere dripping, thus corresponding with the force of the pulse.

The blood was allowed to flow until the weakness in the heart-beat gave warning that the limit of safety had been reached. The bandage was then removed and placed below the elbow to prevent any further flow of blood.

Then pressing the little and ring fingers of the left hand above the orifice in the vein to prevent the entrance of air, leaving the other fingers and thumb to assist in the introduction of the needle, the needle was introduced about three-fourths of an inch, and about ten ounces of milk very slowly injected into the vein.

The needle was then withdrawn and a bandage applied to the arm.

The first indication of returning sensibility was noticed when the needle was pushed a little too high in the vein when nearly through with the injection, and its end impinged against the coats of the vein at the point of union of the cephalic and median cephalic. This sensibility was manifested by a motion, as if caused by a twinge of pain.

Two hours after the operation there was a marked improvement in the appearance of the patient, and four and a half hours after the operation she swallowed and retained stimulants, which she had not done before since she was discovered at 7 A.M., twelve hours previously.

There was on the day following quite a marked redness in the track of the vein above which the opening was made, but it soon subsided on the application of warm lead and opium wash. Excepting this and a very small abscess near the point of

incision, which Dr. Down opened as soon as it was in suitable condition, and which did not gather again, there was no further trouble with the arm.

There was also a large and troublesome abscess formed at the angle of the jaw, which was evidently caused by the cold wind blowing on that point for a period of six or seven hours, but under the judicious management of Dr. Down, with the advice of Drs. Noble and Fisher, there were no unfavorable results from it. Twenty-five days after the operation she was able to sit up, and continued to improve until she perfectly recovered, and has remained well up to the present time.

I have entered more fully into the minute detail of this operation than would be warranted in the description of an operation of more common occurrence. I have done it, however, not to enlighten the experienced practitioner, who may have performed it several times, but for the benefit of any practitioner who may, for the first time, be called to a case when hurried transfusion may be deemed advisable.

The literature of transfusion is very incomplete in many of the text-books, and there is a paucity of detail in regard to it. And in some of the books the directions are confusing, having evidently been written by persons who have never operated nor seen it done.

I trust, however, that any practitioner may learn from the description here given how, by the observance of a few simple rules, the operation can be easily and safely done. And upon an observance of these rules may depend the facility and rapidity with which it can be done; and cases requiring transfusion are generally those demanding prompt and speedy action.

For convenience I will condense a few important points into one or two short paragraphs: If the operator be right-handed let him select the right arm of the patient, and take his position upon the outside. His position will enable him to use the left hand for controlling and compressing the vein, and the right for bleeding and introducing the needle.

Select the median cephalic vein, as it lies nearest the operator and its direction is favorable for introducing the needle without the end impinging against the coats of the vein. After bleeding, compress the vein above the opening with the little and ring fingers of the left hand, and carefully introduce the needle.

Before releasing the pressure above the orifice, press the ball of the left fore-finger flatly over the needle at the point of entrance to prevent the entrance of air. Inject the liquid very slowly, to avoid the fatal complication of paralysis of an already enfeebled heart from too sudden venous plethora.

The above directions, of course, do not apply to immediate or vein to vein transfusion.

The description of the instruments used on this occasion is given to show that in extreme emergencies we can sometimes improvise instruments that will do as good service with as favorable results as could be obtained with all the surgical appliances of an elaborately furnished hospital.

The rationale of the anomalous method of treatment employed in this case can be stated in few words: —

By the presence of carbonic oxide in the blood the integrity of the red corpuscles was destroyed, and they could no longer absorb oxygen, consequently artificial respiration, and even the inhalation of pure oxygen, were of no benefit.

These facts well established, it seemed desirable to first reduce the amount of carbonic oxide in the blood, and, second, dilute the remaining portion and at the same time maintain a suitable degree of venous tension. The first object was obtained by bleeding, and the second by transfusion of a suitable liquid.

As there was no time to lose in drawing blood from a bystander, and going through the process of defibrinating it, and the instruments at hand were not suitable for vein to vein transfusion, the only choice was milk. And were I to perform the operation again, I should use milk in preference to other liquids, as it contains many elements of blood, is about the same density, and is always readily obtained.

TWO CASES OF BENIGN PAPILLOMATOUS BLADDER GROWTHS,

SUCCESSFULLY REMOVED BY THE PERINEAL ROUTE.[1]

BY FRANCIS S. WATSON, M.D.

APART from the value that individual operations in this class of cases afford in the still comparatively early period of their surgical history, in contributing to the sum of our experience in the matter, these two cases present some points of clinical interest which have seemed to me noteworthy.

CASE I. is that of a gentleman aged thirty-eight, who consulted me in April, 1888, for the symptom of hæmaturia, which he had had for three years previously. It was of the type usually associated with intra-vesical growths, and the diagnosis was at once made positive by the microscopic examination of the urine, which contained bits of a papillomatous tumor. April 23rd, 1888, I removed by the perineal route a large, thickly pedunculated, papillomatous growth by a pair of strong forceps, afterward scraping the site it had occupied with a curette. The patient went home on the sixteenth day, the wound healed and the urine free entirely from blood. In the following year he gained about thirty pounds in weight, and had no urinary symptoms whatever, until April 23rd, 1889, exactly one year from the date of the operation. He then had a profuse hæmorrhage from the bladder, and continued to bleed more or less until after the second operation, May 15th, 1889.

On that date the deep urethra was again opened as before. The outer sphincter of the bladder, formed by the compressor urethræ muscle, was apparently as intact as though it had never been subjected to the violence that was done on the first occasion. The site of the original growth, which was just above the right lobe of the prostate, was wholly free from any recurrence.

Just behind the symphysis pubis, on the anterior surface of the bladder, was a sessile papilloma,

[1] Reported at the annual meeting of the Association of American Genito-urinary Surgeons, Newport, May 22, 1889.

occupying an area about as large over as a silver quarter of a dollar. Above this, toward the fundus, were three small growths, with long pedicles. One of these and the sessile growth were removed by a curette. The other two pedunculated bodies were taken away with a wire snare, and their bases curetted.

Recovery from this second operation was also rapid. A large drainage-tube was retained in the bladder, through the perineal wound, for twenty-four hours, then removed. Hæmorrhage was free for the first day, then diminished, and ceased wholly on the third day. The perineal wound closed on the tenth day, and the patient was also up and about on the same day, and went home on the thirteenth day, the urine clear. There was scarcely any pain following the operation, and but very slight bladder irritability during the first few days of convalescence. The temperature rose to 100° F. on the evening of the day of the operation and was thereafter normal.

The points which interested me in the case are: 1. The thorough restoration of the urinary sphincters after the first perineal operation. 2. The absence of recurrence of the disease in its original site; and this especially in view of the fact that the destruction of its attachment to the bladder by the curette had not been extensive at the time of the first operation, which shows that the bladder bases of benign tumors do not require such radical destruction always, to prevent recurrence, as has been supposed by some surgeons. Lastly, this case gave an opportunity to estimate in a single instance the rate of growth that may take place in such papillomata, and how extensive it may be before hæmorrhage is noticed, for it is certain that at the completion of the original operation the bladder was free from any growth sufficiently developed to be felt by the finger.

CASE 2. A young man of twenty-one years of age. Partial and persisting incontinence of urine from birth. Six years ago, at a single urination only, the urine contained a large quantity of blood. This was never noticed again until April of this year, when hæmaturia again occurred and continued in every urination until the day of operation, May 18th, in greater or less quantities. For two weeks the urine was examined daily: no characteristic bits of a new growth were discovered. The sediment, besides the blood, always contained numbers of polymorphous epithelial cells of great variety, having large nuclei, and bodies which resembled so closely hyaline casts of the renal tubules as to be very difficult to distinguish from them. The physical examination was wholly negative, and there was no other indication of renal disease.

On May 18th Nitze's cystoscope was introduced into the bladder, and through it I thought that three delicate villi of a bladder growth could be seen, but before obtaining a good view of them the electric lamp burned out. Digital exploration of the bladder through the perineum was then undertaken. The sphincter vesicæ was scarcely detectable, and the finger entered the bladder in consequence with unusual readiness. The bladder surface was unusually smooth, and its muscular tissue unusually thin. No growth was felt after careful search. A curette was then passed over the bladder surface, and encountered resistance on its posterior face. On removing the instrument a bit of a papillomatous growth was seen upon its edge; guided by this knowledge the finger then felt a soft, delicate sessile growth, covering an area about the size of a silver half-dollar between and above the ureteral orifices. This surface was freely curetted.

Bleeding was slight. A drainage-tube was retained in the bladder through the perineal wound for twenty-four hours, then removed. All bleeding ceased at the end of the second day following the operation; on the fourth day the patient had a chill and rise of temperature to 102° F., after which convalescence has progressed uninterruptedly thus far, though the urine contains a considerable quantity of pus still. The perineal wound closed on the fifteenth day.

In this second case I wish to call attention to — 1. The failure of development in the sphincter vesicæ muscle, and the dependence upon this condition of the patient's enuresis, and also the accompanying lack of muscular development in the bladder wall itself and the thin, smooth mucous membrane of the bladder associated with it. 2. The doubt as to diagnosis which arose from the failure to find characteristic bits of a bladder growth in the microscopic examinations of the urine, but especially from the presence of the hyaline bodies that so closely resembled casts of the renal tubules. To be sure I did not find a single example in which these bodies had two well-defined, rounded ends; but then, it sometimes happens that hyaline casts are broken in such a way as not to show perfect forms. Dr. W. W. Gannett, who reported growth to be a very delicate papilloma, thought it probable that the hyaline forms were portions of the blood-vessel stems of some of the finer papillæ forming the growth, which had undergone hyaline degeneration, and in the entire absence of all evidence of renal disease and the disappearance of these bodies from the urine after the operation, this seems the most natural explanation. I have dwelt somewhat at length upon this detail of the case for the sake of explaining a possible source of confusion in the diagnosis.

A very natural question may occur here. Why delay to make the diagnosis by the microscope when we have so rapid and satisfactory a means of diagnosis in the electric cystoscope of Nitze? In reply to which I would say that I always try to make the diagnosis of a bladder growth at first without the cystoscope, for the reason that, so far as I have observed, the introduction of this or any instrument into such bladders is peculiarly liable to excite cystitis, which is adverse to favorable result. (Therefore, also, I do not follow the advice sometimes given to wash out the bladder or to try to detach bits of the growth by instrumental manipulation for diagnostic purposes.) It seems better to reserve cystoscopic examination until just before operation, in order to demonstrate the presence or absence of a growth in a doubtful case, or to determine its site, size, etc., in one in which its existence has already been established, as a guide to the choice of operation, being always prepared to enter the bladder either from above or below according to circumstances. Used in this way, the cystoscope is, I believe, capable of giving valuable infor-

mation. But it should also be borne in mind that it may mislead, as I have known it to do now in two examples and in the hands of surgeons thoroughly conversant with its use. In one instance a prostatic hypertrophy was taken for a villous tumor; in another a tumor was said to exist, but could not be discovered when sought by operation.

It is unusual, moreover, to have to wait long before finding in the urine of these cases unquestionable proofs of the tumor's existence if it be present.

Supplementary note, three weeks after operation.

Since writing the above report another interesting observation has been made in this case, namely, the discovery that the bladder contains *eight ounces* of residual urine, due to the congenitally defective muscular development of the organ, and present in spite of the patent condition of the vesical orifice that is caused by the lack of development of the sphincter vesicæ muscle. This failure of the bladder to empty itself becomes now an important factor in the case, from the fact of the large quantity of pus which the urine contains, and which the bladder cannot rid itself of by natural efforts; and more especially is this important because of a very great sensitiveness of the anterior urethra, which makes it almost impossible to wash out the bladder through instruments passed through the urethra after closure of the perineal wound.

FOUR CASES OF PHTHISIS TREATED BY INHALATIONS OF HOT AIR.

BY GEORGE G. SEARS, M.D.

Since Koch's discovery of the tubercle bacillus the history of what is new in the treatment of phthisis has been largely that of the rise and fall of various methods for the disinfection of the respiratory tract. Each new method proposed for accomplishing this end has promised brilliant results in the hands of its originators, unfortunately unconfirmed by a fuller experience. This constant succession of disappointments may have had much to do with the indifference at first shown by the profession toward the treatment by inhalations of hot air which has been recommended within the past year by Halter, Weigert, and Krull, though without doubt it has been further handicapped by the questionable proceeding of Weigert in patenting his apparatus and in publishing a popular treatise on "Consumption and its Cure," savoring somewhat of quackery. Recently, however, more attention has been turned to it, and it is with the endeavor to form a basis for the intelligent estimation of its value that the following cases are reported. The number was necessarily small, owing to the length of time required for carrying out its details. All the patients were inmates of the House of the Good Samaritan, in the services of Drs. F. C. Shattuck and C. M. Jones, to whom I am indebted for their kindness in placing them at my disposal and for many valuable suggestions. They had been kept under observation from two weeks to three months, that the general tendency of the disease might become known and the improvement which so frequently follows admission to a hospital from better diet and general hygienic conditions might not be falsely ascribed to the method of treatment.

At the time these observations were begun Weigert's apparatus was not yet on the market nor even patented, and the descriptions which had appeared in the medical journals seemed so complicated that the following simple apparatus, suggested by Mr. G. L. Kingsley, of the Harvard Medical School, was devised. It consisted of a cone-shaped spiral of copper tubing, the base being about six inches in diameter. The lower end extended outward far enough to obtain a supply of air uncontaminated by the gas stove which furnished the heat, while the upper end projected at right angles to the axis of the cone, and was fitted with a mouthpiece. A second piece of tubing was inserted into this to hold the thermometer, and the cone itself was covered with a sheet-iron shield. A somewhat rude but efficient mouth-piece was made from a piece of asbestos-board covered by rubber tubing. The temperature of the inspired air, at first 160° C., was soon raised to 200°, and even to 220°, while the length of the sittings was gradually increased from a half-hour morning and evening to one hour. Beyond this limit it was rarely possible to go, owing to the exhaustion of the patients, who were encouraged to take as long and deep breaths as possible. Except the salivation and soreness of the mouth noted in Case I. the only disagreeable effect complained of was double vision, which lasted but for a short time after each sitting, and was present only for the first few days. The routine hospital treatment was continued in each case, and consisted in the administration of tonics, creasote, and a full diet.

Case I. Woman, thirty-eight years old. Beginning phthisis, scanty expectoration containing a few bacilli. Jan. 17th, 1889. Treatment began, inhalations of a half-hour in duration being given twice daily with a temperature of 160° C. They excited an almost constant short, hacking cough and a profuse flow of saliva.

Jan. 22nd. Inhalations have been increased to forty-five minutes A.M., and forty minutes P.M., while the temperature has been raised to 210° C. Salivation is so profuse while she is at the apparatus as to seriously interfere with its use. She complains that her mouth is very sore.

Jan. 23rd. Mouth so sore that inhalations had to be omitted. During the week she has lost three pounds in weight, and the temperature, which had previously kept within normal limits, varied but little either morning or afternoon from 100° F. A day or two later it again dropped to normal.

Case II. Woman, æt. twenty-three, without hereditary taint. Advanced phthisis, with signs of a cavity in left apex, and slight crackle in the right above and below the clavicle and in the supraspinous fossa. Cough slight, most troublesome at night, with scanty expectoration containing a few bacilli. Has never been confined to bed and has never had hæmoptysis. Was placed under treatment Jan. 17.

Jan. 24th. She reported herself as feeling much encouraged; there had been no cough for several nights, her dyspnœa had decreased so that she could now go up stairs without special discomfort. Sleep and appetite were improved.

Mar. 1st. There is still less dyspnœa and her

appetite remains fair, but the improvement in cough was but temporary.

Mar. 17th. Is in bed. Cough has increased and the expectoration contains considerable blood, from half an ounce to an ounce in the twenty-four hours. During the following week the hæmoptysis continued, the inhalations being omitted. On attempting to resume them the effort proved so exhausting that after a few days they were discontinued. The patient's general condition was then less satisfactory than before treatment was begun, and the physical signs showed an extension of the process on the right side, the respiration being bronchial as low as the third rib, while an explosion of fine râles occurred after cough over the upper half of the chest in front.

CASE III. Woman, æt. twenty-two, with negative family history. Advanced phthisis involving nearly the whole of the left lung, with signs of an incipient process at the left apex. Cough not very troublesome, expectoration moderate in amount, containing numerous bacilli, slight sweating at night, considerable dyspnœa on exertion. No hæmoptysis.

Jan. 23rd. Inhalations begun. Mar. 9th. Steady improvement during the past six weeks. Dyspnœa is less, and cough and expectoration have decreased. She has gained four pounds in weight, and her strength and color have both improved. The pulmonary signs, however, have remained practically unchanged.

Mar. 29th. Has lost two pounds during the past two weeks and cough and expectoration have slightly increased, but she reports herself as feeling better and says she can now go up stairs without trouble. Inhalations omitted.

April 3rd. Death from hæmorrhage.

CASE IV. Woman, æt. twenty-two, with tubercular family history. Well-marked signs of phthisical process in right lung, slight cough, with but little expectoration, containing a few bacilli. No hæmoptysis. Sits up all day.

Mar. 1st. Treatment begun. Mar. 26th. Considerable blood in expectoration during the past few days, during which the inhalations were omitted. April 15th. Has become so thoroughly alarmed by the death of the other patient, which she attributes to the hot air, that it was no longer possible to continue. During these six weeks her general condition has remained about the same. There was neither increase nor loss in weight, and beyond a slight gain in her ability to sleep there was no improvement to record, while the cough and expectoration had both increased.

To briefly summarize the results obtained: In one case the inhalations were omitted after a week, owing to salivation and soreness of the mouth, with a loss to the patient of three pounds in weight. This loss simply emphasized the general tenor of the case, as it was afterwards partly regained and was fairly attributable to mental disturbance, as she expressed great anxiety at the possible effects of such unusual therapeutics.

In one case (II.) temporary improvement was quite marked, but at the time the treatment was discontinued there had been a further advance of the disease, and for the first time in the history of her illness hæmoptysis occurred.

In one case (III.) there was fairly steady improvement in the general condition of the patient, but without a corresponding improvement in the physical signs. She had, however, already begun to improve during the two weeks she was under observation, before the inhalations were begun, and a part at least of the gain must be attributed to hospital care. Five days after they were omitted death resulted from hæmorrhage.

In one case (IV.) the condition of the patient remained unchanged, but during this period blood was present in the sputum for the first time.

Excepting Case I., where a rise in temperature level of a degree and a half occurred, no permanent change was noticed in its course. The other three cases had previously shown an afternoon rise to 100° or 101°, and this continued unabated. The immediate effect was an elevation of from 1° to 3° F., which always subsides in the course of an hour or two. No special alteration was noted in either pulse or respirations. The increase in expectoration which is said to occur during the first few days seemed in these cases to be due, in part at least, to the stimulation of the salivary glands. Considering the relative frequency of hæmoptysis in phthisis, it is an open question how far one is justified in attributing its regular occurrence in these cases to the form of treatment. It is impossible that air should reach the lungs with a temperature even approaching 200° C., as a part of the heat is lost by radiation between the thermometer and the lips, and much more in the mouth and upper air-passages from the absorption of moisture, still it must retain a considerable portion on reaching the pulmonary alveoli, as Weigert has found that the temperature of the expired air is 113° F., while according to Kohlschütter it may considerably exceed this (140° C.). In other words, a hot poultice has been applied to the lungs, an active hyperæmia induced, and with it increased danger of the giving way of the wall of some vessel weakened by ulceration or aneurismal dilatation. This danger would, moreover, be still further increased by the rarefaction of the air inspired, which, at 50° C., has been calculated by Halter to be of the same density as at a mountain elevation of 1530 metres, while the patient himself remains exposed to the ordinary atmospheric pressure. The sputum was examined on several occasions for bacilli by Dr. E. M. Greene, in the hope of detecting a constant diminution in their number, but the result in every instance was negative, with the possible exception of Case III.; but as they had never been numerous the slight diminution in this instance may have been simply accidental. It is hard to believe that bacilli situated in the lung substance, and protected by a layer of moist tissue, can be at all affected by air at any temperature which can be inhaled. Whatever germicidal action it possesses must be exerted after they have reached the surface, where it may be of value, partly in shutting up one avenue of further infection by making any secretions carried by the respiratory current into healthy portions of the lungs less noxious, but more perhaps in limiting the danger of contagion by rendering the bacilli inert before they are expectorated. It is comparable to

the oiling of the body of a scarlatinal patient: it produces little effect upon him, but furnishes a certain amount of protection to others.

Conclusions drawn from so small a number of cases are apt to be untrustworthy, but in these instances the following summary seems justifiable:

1. Cases so treated differed but little in their course from those treated by the older methods. Whatever gain was noticed seemed more justly attributed to the expansion of the lungs from forced inspirations than to any effect of the hot air *per se*.

2. Little influence can be expected from it upon the development of the bacilli. Any germicidal action it may have is largely exerted in sterilizing the bronchial secretion, and is to be looked upon rather as a prophylactic measure against the spread of the disease than as curative in any particular case.

3. While it is not proven that the occurrence of hæmorrhage in these cases was not all dependent upon the form of treatment, theoretical considerations make it probable that it increases the tendency thereto and suggest caution in its use.

REPORT ON PROGRESS IN ORTHOPEDIC SURGERY.[1]

BY E. H. BRADFORD, M.D., AND E. G. BRACKETT, M.D.

INTERNAL DERANGEMENT OF THE KNEE.

John Croft[6] reports removal of a large portion of the semilunar cartilage of the knee for persistent internal derangement. It was attached by the anterior and posterior extremities, but displaced upward into the intercondyloid notch. About three-fifths was excised. The patient made a good recovery with a strong and useful joint.

He considers that the semilunar cartilages may be dislocated from their anterior or posterior attachments, or both; that rupture from the posterior attachment must be very rare, if it ever occurs; that when the circumferential relations are ruptured the cartilage tends to displace into the intercondyloid notch, and that when the anterior attachments are torn through the cartilage tends to displace inwards and backwards.

Annandale (page 164) gives the following conclusions from his five cases.

(1) That the internal semilunar cartilage is the one most frequently displaced. Of the five cases only one involved the external cartilage.

(2) That three different forms of displacement occur: —

(*a*) Separation of the anterior and posterior and lateral attachments, the cartilage being displaced backward and outward (three cases).

(*b*) Separation of anterior and lateral attachments, the cartilage being folded upon itself (one case).

(*c*) Separation of anterior and lateral attachments, the inner edge of the cartilage being turned over and lying in the intercondyloid notch (one case).

(3) The joint and limb should be kept perfectly at rest after the operation, for at least six weeks, and then, when the wound is soundly healed, careful movements of the joint and general massage of the limb should be employed.

(4) That the result in all my five cases has been excellent.

Allingham[7] also reports a case of removal of a portion of the semilunar cartilage, after which the patient made a complete recovery.

R. J. Goodin reports a case of dislocation of external fibro-cartilage, in which it was torn away and rested vertically in the intercondyloid fossa. This differs somewhat from the ordinary cases, in which the deformity is reported as on the inner side.

DOUBLE HIP-DISEASE.

Ridlon[8] gives the following from the analysis of his cases.

The disease seldom begins in both hip-joints at the same time, and the second joint may become diseased while the patient is resting in bed under treatment for the first joint.

The joint first affected is often the last to recover.

The duration of the disease in the hips is usually somewhat less than that of the average case of hip-disease, while the duration in the second is usually much less than that of the first.

The influence of derivative effect upon the first joint is not borne out by these (his cases), as the second has got well before the first. The beneficial effect is more to be attributed to the rest necessitated by the involvement of the second joint.

HYSTERICAL HIP.

Glorieux[9] reports a case of hysterical hip occurring in an otherwise healthy man, and is, according to the author, the second reported as observed in man, the other having been described by Charcot. On the maternal side there was an alcoholic history, and one sister was affected with some neurosis. The case presented the usual picture of ordinary hip-disease, but there was never any fever or disturbance of general nutrition, and contraction entirely disappeared under chloroform. There was general pain over the leg, and disturbance of sensation, which corresponded, not to the distribution of nerves, but to the zones of central innervation which are frequently seen in hysterical affections. In spite of long duration of the disease, there was no vaso-motor or trophic disturbance. The differentiation of this condition from one of monoplegia from central organic lesion is well considered in the article.

Bilhaut[10] describes a condition seen twice by him, and which he designates as "coxalgie simulée." The cause of the disturbance is a lack of symmetrical development of tho two legs, this difference being more than could be called physiological. The symptoms were slight, but those of early hip-disease, and were noticed as soon as the child began to walk. They consisted of a favoring of the leg, turning out of the toe, and complaint of fatigue after even slight exertion. In standing the weight was borne alternately on the two feet. Examination of the joint was negative; no hysteria. Nutrition of the two limbs equal,

[1] Continued from page 13.
[6] Trans. Clin. Soc. Lond., 1888, xxi.
[7] Med. Press and Circ., Jan. 30, 1889, 113.
[8] Jour. Anats. and Surg., Oct., 1888, 193.
[9] Rev. Méd., Louvain, 1888, vii. 397.
[10] Jour. de Méd. de Par., 1889, xvi. 23.

except that the affected leg seemed a little less firm. There was, however, a difference in length of 1½ cm. in favor of the unaffected side. By use of an additional sole the symptoms entirely disappeared. No cause for the asymmetry was found; but the importance of recognizing such a condition, associated with the symptoms of a serious affection, is evident.

THERAPEUTICS IN JOINT DISEASE.

Lovett[11] has used with marked success the salicylate of soda in chronic joint disease attended with acute symptoms, and has found it valuable in the following conditions: (1.) When night cries are present. (2.) When the diseased joint is very painful and sensitive to jar. (3.) When vomiting and general discomfort are associated with an increase in the local disease. It was used only "as an adjunct to proper mechanical treatment," and in doses up to the physiological effect or until the symptoms were relieved. In this way it has proved a valuable means for the quick relief of the acute symptoms.

SENILE COXITES.

H. L. Taylor[12] has tried effects of rest with extension. Traumatism seems to have exciting or aggravating effect on many of those cases.

After a month or six weeks of rest with traction, the muscles about the hip seem softer, and the position and mobility improved. The patients are then given a Dow's and allowed moderate exercise with the benefit of fresh air. Two cases reported in which benefit was derived.

A CASE OF RACHITIS ADOLESCENTIUM.

C. B. Keetley[13] reports a case of rachitic curve of upper part of femur, simulating a condition of dislocation. Duration about eight years (then fourteen years). Operated by wedge-shaped osteotomy, resulting in cure. In this case there was also a scoliosis.

LATERAL CURVATURE.

Mr. Bernard Roth[14] calls attention to the inaccurate and unsatisfactory ways of recording lateral curvature, and describes the method followed by him for some time. He considers the conflicting statements in regard to the cure of curves of various degrees of severity to be due to the lack of systematic classification, and suggests the following: (1.) Those without any osseous deformity, postural stage. (2.) Those with osseous deformity, osseous stage — which may be divided into (*a*) slight, (*b*) moderate, (*c*) severe or extreme. His method of recording, although it may not have received the attention of writers, is not new to many orthopedists and depends upon the rotation of the ribs. The patient is made to stand in front of the surgeon and bend forward, holding the knees stiff. A tracing is then taken with a pliable metal tape, transversely across the back, at a level with the lower angle of the scapulæ. This is then transferred to paper. A similar tracing may be taken over the erector spinæ.

[11] Boston Med. Surg. Jour., April 11, 1889.
[12] N. Y. Med. Jour., Dec. 15, 1888, 658.
[13] Illus. Med. News, 1888-9, i. 7.
[14] Brit. Med. Jour., Oct. 27, 1888, 927.

In treatment[15] he advocates re-education of muscular sense and methodical exercises of the muscles to enable them to maintain this improved position without effort.

Fischer[16] recommends daily exercises for three quarters of an hour each day.

First. The patient lays both forearms on a cushion placed upon a stool so that the back is nearly horizontal, a band is placed around the trunk and a weight hung upon that. These weights are increased up to 80 kilogrammes and more; the weight must be continued as long as the patient can endure it. The first treatment for several minutes, afterwards for one-fourth of an hour.

Second. The patient stoops so that the back is at right angles with the legs and leans against a horizontal bar padded at both ends so as to press upon the shoulder and pelvis; a strap passed around the trunk passes over the bar and the weight hung upon this exerts a lateral pressure.

These weights can be adjusted according to the situation of the curve. No cases are reported used with this apparatus.

Schwartz[17] has devised a new method of suspension, which enables the correction of the scoliotic trunk. After the correction has taken place a plaster jacket is put on in a corrected position.

The arrangement is a complicated one, but it is said to accomplish the purpose intended. A full description of the appliance is hardly possible here, but the readers are referred to the article itself.

ISCHIAS SCOLIOTICA.

Schudel, in the *Archiv für klinische Chirurgie*, 38 Band, 8 Heft, 1888, describes what he calls ischias scoliotica, a curvature of the lower portion of the spine, which is accompanied with symptoms of sciatica. The deformity is due to the relative inability of the muscles for an active contraction on account of the disease of the sensitive nerve in the muscles. The lumbar nerves are the ones affected with neuralgia.

SHOULDER STRAPS, ETC.

Roth[18] urges strongly against their use at all. As said by John Shaw,— that the muscles whose place they take atrophy from disuse, while the opponents, being developed, increase the deformity as soon as the straps are removed, by faulty antagonism. As a result which often happens when straps are pulled too tightly, the shoulders are held far backward, thus producing marked lumbar lordosis.

THE FORCIBLE AND IMMEDIATE REDUCTION OF OLD SUBLUXATION OF THE TIBIA.

Bradford[19] describes a new instrument for the reduction of subluxation of the tibia. From experiments on cadavers it was found that the tibia could be pushed forward fully an inch. The first resistance encountered is the posterior crucial ligament, which becomes tense after the application of considerable force. The posterior ligament can be

[15] Brit. M. J., Oct. 27, 1888, 928.
[16] Centralblatt, Orthopædische Chirurgie, 11th year, Heft 3, page 73, March, 1889.
[17] Weiner Med. Presse, 1888, No. 40-43.
[18] N. Y. Med. J., Nov. 3, 1888, 488.
[19] Tr. Internat. Cong., 1887, ix. iii. 646.

stretched, and affords but little resistance in a normal joint.

In cases of severe tubercular osteitis, with recovery with fibrous ankylosis, and subluxation of the tibia, forcible straightening of the limb does not reduce the subluxation. The tibia does not slide forward, but is held back by either the hamstrings or contracted capsule.

The apparatus is shaped much like a tuning fork, with the ends of the two prongs so curved, that when the leg is placed between the forks the curve of each corresponds to the bend at the knee. A broad band passes behind the leg at the upper part of the tibia, provided with a screw by which this may be forced forward. Pads are placed over the patella by which counter pressure is obtained. By this means the tibia is first forced forward and the joint then straightened.

OSTEOTOMY.

Robson [20] reports a series of eighty-four osteotomies on fifty-four patients, sixty-eight for genu valgum, and in these Macewen's osteotome was used. In two cases of bow-legs the saw was used, but in the others a wedge-shaped piece was removed from the tibia. Recovery ensued in all cases, and only nine out of the eighty-four required a second dressing. Of the tibial cases, two suppurated, these two being those on which the saw was used. It was found that unless apparatus was worn there was a tendency for the deformity to return.

ANTERIOR TIBIAL CURVES.

Willard,[21] in a paper on surgical treatment of anterior tibial curves, gives the following conclusions: —

Anterior tibial curves, during the soft and springy stages, may be corrected by manual rectification and the use of apparatus.

Braces are useless after hardening has occurred.

Manual fracture is the best and safest remedial operation in young children.

Instrumental fracture or osteoclasis is not as safe or effective as osteotomy.

Aseptic simple osteotomy for all moderate degrees of curve, and cuneiform section for very severe grades, give almost uniformly good and speedy results without suppuration. Subcutaneous section by the saw is also a reliable operation.

Plaster of Paris is the simplest and most effective material for securing accurate position and maintaining absolute fixation.

(*To be continued.*)

Reports of Societies.

FORTIETH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION,

HELD AT NEWPORT, R. I., JUNE 25TH TO 29TH, 1889.[1]

SECTION FOR MEDICINE, MATERIA MEDICA, AND HYGIENE — CHAIRMAN, DR. F. C. SHATTUCK, BOSTON.

Second Day — June 26, 1889.

Dr. FRANCIS DELAFIELD, of New York, opened the meeting with a paper on

[20] Brit. Med. Jour., Jan. 19, 1889, 124.
[21] Med. and Surg. Rep., 1889, Jan. 9, 65.
[1] Continued from page 21.

CHRONIC ENDOCARDITIS.

Of the ordinary diseases few were more common or presented a greater variety and severity of symptoms than chronic endocarditis. It seemed evident that nearly all of the most important symptoms of chronic endocarditis were due to the disturbances produced in the distribution of the blood throughout the body. Why was it that in some cases there were disturbances to the circulation and in others not? The disturbances to the circulation were due to a number of causes which acted singly or together, viz.: —

1, The endocarditis; 2, the dilatation and hypertrophy of the ventricles; 3, the inflammation or degeneration of the wall of the heart; 4, the inflammation of the coronary arteries; 5, the abnormal heart-action: 6, the associated pulmonary emphysema, chronic endarteritis, and chronic Bright's disease. The reader confined himself to the consideration of three which were perhaps the most important: —

(*a*) Endocarditis. Some of the persons with valvular lesions were suffering from chronic endocarditis and others only from the changes produced in the valves by an endocarditis which no longer existed; in the one case they were suffering from the chronic inflammation, in the other from the deformity. Chronic endocarditis might directly follow acute endocarditis, or it might from the first be a chronic lesion; when once commenced it seemed to have a tendency to persist and involve other portions of the endocardium. It was possible, apparently, for the endocarditis to stop at any time, in which case the valves would undergo no further changes. It was a productive inflammation without exudation. In its most active form there was a very considerable growth of cells, and also a death of cells, so that the inflamed endocardium was thickened in some places, ulcerated in others, and on the roughened surfaces thus made thrombi were formed. In its more chronic form the growth of cells was not as great, the cells did not die, the surface of the endocardium was somewhat roughened and small vegetations often formed, but no thrombi.

In other forms of inflammation there might be added degeneration or calcification to the inflamed endocardium and to the thrombi.

In the more active form of the disease many cases ran their course in six months, the symptoms being disturbed heart-action, delirium, convulsions, paraplegia, cough, hæmoptysis, dyspnœa, nausea and vomiting, dropsy, loss of flesh and strength, anæmia, rise of temperature. There might be intermissions and the inflammation might stop altogether. In the slow form the disease lasted many years; there were usually intermissions, and it might stop altogether at any time. Many of the patients had no symptoms, or one symptom might develop and others be added.

(*b*) The abnormal heart-action. The heart's action, as a rule, was disturbed. Such disturbance was produced (1), by the endocarditis existing as an inflammation of some activity and producing changes in the heart's action; (2) there was such a degree of stenosis or insufficiency of the valves as would mechanically interfere with the heart's action; (3) dilatation and hypertrophy of the ventricles

were often present and had their effect in changing the character of the heart's action; (4) chronic myocarditis and disease of the coronary arteries produced the most extreme and intractable disturbance of the heart's action; (5) contraction of the smaller arteries throughout the body, with increase of arterial tension and venous congestion. Such a contraction might last for hours, days, or months. There might be but one such attack or many. With such contraction the heart's action becomes rapid, forcible, or feeble, or tumultuous. The degree of cardiac disturbance was, apparently, in proportion to the suddenness of the contraction of the arteries, not related to the severity or extent of the endocarditis; (6) there were unknown causes, which apparently acted through the nerves, which regulated the action of the heart. In some of these cases the abnormal heart-action was associated with advanced disease of the valves; the pulse was of low tension, feeble and rapid, the heart's action feeble or exaggerated, the condition of the patient often very bad. In still other cases the endocarditis was not advanced, the valves but slightly narrowed or insufficient, little or no change in the size of the heart. The heart's action, however, was rapid, either feeble or exaggerated, pulse soft and rapid. The patients often had pain or abnormal sensations referred to the heart; the general health might be very much impaired.

(*c*) The secondary and complicating changes in the kidneys. Of the persons who suffered from chronic endocarditis a large number never had any complicating disease of the kidneys at all. In the persons who died from endocarditis it was, on the other hand, rare to find normal kidneys. During life it was not sufficient to examine for albumen and casts, which were often absent, but the quantity of the urine, specific gravity, proportion of urea to the ounce of urine, must be determined. Advanced changes in the kidneys often existed in persons whose urine was said after a superficial examination to be normal. In persons who died from chronic endocarditis we might find either chronic congestion of the kidney, chronic degeneration, or chronic nephritis. Three forms of chronic nephritis were likely to be associated with chronic endocarditis: (1) chronic nephritis with a large and continued exudation of serum from the blood-vessels of the kidney into the tubes; (2) chronic nephritis with moderate and intermittent exudation from the blood-vessels; (3) chronic nephritis with little or no exudation from the blood-vessels and the nephritis advancing very slowly indeed.

DISCUSSION.

DR. WILLIAM PEPPER, Philadelphia, said he was particularly glad to hear Dr. Delafield dwell so largely on the state of the arteries, emphasizing the fact that most of the clinical troubles in chronic endocarditis were troubles of the distribution of the blood, while recognizing that there were troubles from the progress of the central lesion. If we knew more of the state of the nervous ganglia about the heart we should add a point of great interest. One could not sum up, he thought, better than Dr. Delafield had done the difference between the classes of cases of chronic endocarditis — "some a deformity; some a chronic inflammation." When it was a progressive inflammation, rest in bed was essential. The causes of this inflammation, their relations to antecedent diseases, were very obscure. The cases where there was not the evidence of a progressive lesion constituted the bulk of the cases of chronic endocarditis and presented the widest differences. He was disposed to doubt whether a contraction of the arteries lasting for days and even for months could have its origin in a mere nervous cause. It seemed to him that in such cases there must exist some progressive organic change in the arterial walls, the relations of which with valvular disease of the heart and disease or changes in the walls of the heart were shown to be more and more close and important. Again, the relations of the valvular disease and the state of the heart to the amount of blood to be moved seemed to him to be a practical thought of the very greatest moment. Here was an organ where there was perhaps no active lesion progressing, yet it was a deformed organ, and it was called upon for mechanical labor above all things. The amount of work to be done was measured by the resistance to be overcome on the part of the arteries and by the mass of blood to be moved; and in dealing with these cases he thought the careful adjustment and regulation of the amount of blood to the needs of the system was a fundamental thought, and therein came the importance of our more accurate systems of diet, as weighing the patient, determining the excreta carefully, and, further, the importance of depleting treatment, whether by saline mineral waters or carefully repeated small venesections, from which we saw the most remarkable results. Again the mass of the body, the amount of tissue to be supplied with blood by the heart, seemed to him to be a fundamental thought in our dealing with endocarditis. The blood might be deficient, but the amount of adipose through which the blood was to be forced, which increased the work of the crippled heart, must exert an immense influence upon the capacity of the heart to do its work. Some of the cases were anæmic and needed to be fed up; many of them which seemed to be anæmic needed to be reduced in weight. Lastly the tone of the tissue appeared to him to be of enormous importance. We must recognize the difficulty the heart had in driving blood through flabby tissue; add to this the danger that the surface of the body was relaxed, the secretion checked, blood driven centrally, fresh congestion possibly of the endocardium excited, and we saw the reason why, despite all treatment, there would be repeated attacks and the development of more and more unfavorable symptoms. Attack the defective tone of the system by massage, by graduated exercises, associated with careful diet and careful regulation of the amount of blood — that seemed to him the most favorable method of treating and of giving the best results in these cases of chronic endocarditis where there was not actual progress of the inflammation existing.

DR. WILLIAM OSLER, of Baltimore, said that chronic endocarditis in itself and by itself produced symptoms no more than any other sclerosis. There were, it was true, certain instances in which the degeneration in the atheromatous valves did produce symptoms, but in the majority of these cases no symptoms were produced directly by the endocardi-

tis itself. Take the case of a chronic, gradually oncoming stenosis of the mitral valve: it was not the endocarditis which had deformed that valve which produced the symptoms, but the gradual failure in the compensation of the heart. Symptoms were produced, first, when compensation failed; it was a muscular change, and frequently noticed as a result of the degeneration in the coronary arteries; and, secondly, in the great majority of cases in connection with neurotic changes of which we as yet knew very little.

Dr. William Osler, of Johns Hopkins University, then reported a case of

SENSORY APHASIA,

and exhibited the brain.

Only about one dozen cases of word blindness are now on record, and this was a very typical case. Patient could not pronounce the words he saw, but could repeat them. His words were constantly misplaced. He finally died with paralysis.

Dr. Osler also exhibited some specimens of brains, prepared according to the Italian method, with zinc, zinc chloride, glycerine, etc.

The third paper was by Dr. James Tyson, of Philadelphia, on

THE INDUCTION OF PREMATURE LABOR IN BRIGHT'S DISEASE.

The occasions justifying the induction of premature labor are (in the judgment of the reader) two in number: —

1. In Bright's disease complicating pregnancy, where puerperal convulsions attended nephritis in a previous pregnancy.

2. In all primiparæ where Bright's disease had existed previous to pregnancy. Here premature labor should be induced as soon as the fœtus is viable.

There is a third class of cases which are not included in the above categories. There may be no urgent reason for interference. Many go to full term, many miscarry. The supervention of uræmic symptoms calls for immediate delivery. The robust and plethoric are in greater danger than the anæmic and feeble. Bright's disease in a first pregnancy is generally more serious than Bright's disease in subsequent pregnancies.

Dr. V. C. Vaughan, of Michigan, said that some women habitually have uræmic symptoms in pregnancy. By uræmia he means blood poisoned by urinary elements. Where such symptoms present themselves, labor should be induced early. Three patients under his care in three successive labors had puerperal convulsions. The symptoms came on suddenly; there were large quantities of albumen in the urine, and the secretion was scanty. He would never think of allowing such cases to go full term. In primiparæ we are not justified in being so hasty, or in formulating any law.

We can do much to lessen the liability to danger by dieting. The appearance of swelling of the extremities, puffiness under the eyes, albumen in the urine, would lead him to limit the amount of proteids in the food of his patient. He would allow meat only once a day, and would choose the white in preference to the dark meats; milk should be the principal element of diet in many cases. He would promote elimination by a dose of Carlsbad salts in the morning.

Dr. Atkinson, of Baltimore, thought that the contracted kidney was most prolific of puerperal convulsions and of danger in pregnancy. He always waits for the supervention of uræmic symptoms before interfering.

Dr. Scott, of Cleveland, treats the pregnant albuminuric by milk diet, scanty proteids, and tincture ferri chloridi. He had had in one patient seven miscarriages in eight years, and recovery. He believed that patients who had had scarlatinous nephritis in childhood were apt to have Bright's disease during pregnancy.

Dr. Stewart, of New York, said that one difficulty in the management of Bright's disease of pregnancy was to obtain the consent of the patient and family when the induction of premature labor seemed a necessity to the attending physician.

Dr. C. N. Chamberlain, of Lawrence, and Dr. J. C. Wilson, of Philadelphia, corroborated the views of the previous speakers.

Dr. Tyson, in closing, emphasized the proposition that in primiparæ the existence of Bright's disease prior to pregnancy makes the disease much more serious. In multiparæ we may have albumen in the urine over and over again without seriousness. But where there are bad uræmic symptoms with tube-casts, then it is time to interfere.

Dr. D. W. Prentiss, of Washington, D. C., read a paper on

THE PHARMACOPŒIA OF 1890.

It is important that the physicians of the United States should be represented in the revision of the Pharmacopœia, and the American Medical Association should appoint three delegates to be members of the Committee of Revision, in accordance with a provision of the statutes.

A resolution was carried that the chairman of the section should offer a motion to this effect at the general meeting.

ON REYNAUD'S DISEASE.

Dr. G. M. Garland read a paper with the above title.

Maurice Reynaud was the first (in 1862) to describe a peculiar affection to which he gave the name of "symmetrical gangrene of the extremities." He collected twenty-eight cases observed in the hospitals of Paris, and after analyzing the symptoms defined the disease as "a neurosis characterized by an exaggeration of the excito-motor power of the cord presiding over the vaso-motor nerves." He believed that there was no alteration of the heart or arteries in these cases, consequently denied that the gangrene was due to arterial occlusion, whether by hyperplastic endarteritis, by thrombosis, or by embolism. He called particular attention to the spasm of the vessels, and proposed the name "local asphyxia" to designate the peculiar condition of the parts affected.

A great many cases have since been reported, and the disease has been duly recognized as a definite nervous affection by leading authorities in all countries.

The reader described three stages: 1. The stage of local syncope; if in the fingers, these are cold, dead, anæsthetic, *digiti mortui*. The temperature is

lowered, the parts seem frozen. The return to the normal state is accompanied by light prickling or burning sensations. The duration of this stage may vary from a few moments to several days. This stage may be succeeded by a second, of cyanosis. 2. Local asphyxia. This is a stage in which the exit of venous blood is impeded; the vascular spasm is intense; the capillaries are engorged, and the members have a bluish appearance, are cold and painful. The return to color and temperature may be very rapid, or very slow. 3. The stage of symmetrical gangrene generally develops out of the asphyxiated stage. The gangrene is generally of the dry mummified kind, although it may be moist. The member sometimes undergoes spontaneous amputation in ten days. The gangrene may affect other parts of the body than the toes and fingers; sometimes both ears, the lips, or symmetrical parts of the nose.

Theories — (*a*) angio-neurosis (Reynaud);
(*b*) tropho-neurosis;
(*c*) endarteritis obliterans;
(*d*) local neuritis.

Etiology — exposure to cold (frost-bite), sclerodema, syphilis, malaria, anæmia, abuse of morphine, Bright's disease, diabetes. (Etiology is obscure.)

The internal treatment has been unsatisfactory. Dr. Garland reported three cases occurring under his own observation.

The above paper was discussed by Dr. C. N. Chamberlain, of Massachusetts, Dr. Herrick, of Ohio, and Dr. Holden, of Vermont.

DR. HERRICK thinks that there may be many types of symmetrical gangrene, and that they are all phases of perverted nutrition — disturbance of the crasis of the blood, disturbance of the circulating vessels, disturbance of the nutrition of the cells of the part. In treatment we should take cognizance of the factors of causation.

DR. GARLAND, in closing, remarked that the disease often occurs in young people otherwise healthy, and that at the autopsy there have been no changes noted that throw light on the causation.

The next paper was by DR. J. V. SHOEMAKER, of Philadelphia, on

DIOSCOREA VILLOSA — WILD YAM.

This indigenous plant was believed by the reader to be of singular efficacy as a remedy in intestinal and hepatic colic. In the latter disease it will generally relieve without morphine; in fact hardly any other medicine is needed. The dose of the decoction is from one to four fluid ounces; of the tincture ten to sixty drops; of the fluid extract, five to thirty drops. Large doses are emetic. It is diaphoretic, antispasmodic, expectorant, and cholagogue.

SECTION FOR SURGERY AND ANATOMY — DR. N. P. DANDRIDGE, CINCINNATI, CHAIRMAN.

Second Day — Wednesday, June 26, 1889.

The first paper of the afternoon was by DR. C. B. PORTER, of Boston, on

EXTROVERSION OF THE BLADDER.

Dr. Porter said that this was a congenital deformity, in which the bladder, with mucus surface exposed, protruded hernia-like in the lower hypochondriac region. Its anterior wall and corresponding portion of the abdominal walls were wanting, with usually the symphysis pubis. The urine dribbled from the ureters or was ejaculated in squirts on coughing or sneezing. Its constant contact excoriated the skin of the genitals and thighs and made its possessor miserable, and the attending urinous odor an object of repugnance to those about. The other parts of the genito-urinary system were usually present in a more or less developed state.

Dr. Porter's cases presented one of each sex. Although this deformity was distressing, patients with it lived many years.

The reader then reviewed the different operations that had been done for the relief of this deformity.

With regard to the choice of operation it seemed to the writer that age and the extent of the cleft must determine. Up to the present time no operation had attained continence of urine. The results of diverting the urine into the intestine were not encouraging; diverting the urine to a central point in the abdominal wall did not commend itself. Trendelnberg's operation had thus far achieved no more than the method by flaps. This method was one adapted to both sexes and to all ages.

The surgeon, before operation, should inform himself as to the condition of the kidneys, and continually keep in mind the main result for which he was striving, namely, the free drainage of the urine, otherwise obstruction with its results — dilatation of the ureters and destruction of the kidneys — would ultimately follow. The development of the prepuce and scrotum in the male, the labia minora and majora in the female, furnished the operator abundant material for flaps. All the general rules of plastic surgery held in these operations. The flaps must be about a third larger than the gap to be filled. They must be arranged in such a manner as to furnish to their pedicles an abundant supply of blood. During any delays in the operation they should be covered in hot towels wet in an antiseptic solution. They must be handled as little as possible, and rarely with forceps. Any dragging on the pedicle endangered the vitality of the flap. All bleeding must be arrested before the flaps were adjusted in position. Light and gentle pressure prevented any oozing between them. The operation completed, they should be kept for many hours in moist, hot, antiseptic dressings. Perfect antisepsis should be maintained throughout. The reader reported two cases which were operated upon in accordance with these rules. In both the operation was successful. Case 2 was that of a girl of eight years of age. She was healthy and well formed, with the exception of the extroversion of the bladder, which was complete. The cleft extended from the mons veneris, symphysis pubis, and urethra into the vagina, which was split throughout, and formed a sort of trough down which the urine ran when she was in the upright position. The pubes were separated three inches. The mucous membrane of the bladder and vagina was exposed, bleeding on the slightest irritation. The ureters opened near the middle of this exposed surface an inch apart, and on coughing the urine was forced out in small jets. On straining, the exposed bladder bulged out, forming quite a hernia. Surrounding the bladder was a ring of

cicatricial tissue one-half inch wide. By the most careful rectal examination under ether, no uterus or uterine appendages could be felt.

Operation January 11, 1889; ether. A pattern in cloth was cut of a size required to cover the exposed surface. A flap of skin one-third larger than the pattern, to allow for shrinkage, was raised from the middle of the abdomen, between the bladder and sternum. Its pedicle, which was broad, was attached just above the bladder. The flap was temporarily covered with towels wet in a hot solution of boric acid. Two side flaps, each one-half the size of the large flap, were then cut from the pubic and inguinal region, with pedicle at the side of the split mons veneris. These were folded in hot, wet towels. The skin around the bladder was then raised up about one-half inch, making a raw groove running around the margin of the vesical wall, where it blended with the integument, except a small area which corresponded to the split vagina. The large abdominal flap was then turned down, with the skin surface next the mucous membrane, and the edges stitched into the groove above mentioned with fine catgut, leaving only on the middle line a canal for the passage of urine formed by the vagina. The two side flaps were then swung around towards the middle line, and their raw surfaces opposed to the raw surface of the abdominal flap. They were stitched to each other on the middle line, and at their circumference to the same groove as the abdominal flap. In this manner a complete cover for the bladder was made. The abdominal wound, from which the broad flap was taken, was brought together by stitches in the middle line. The two internal wounds were left to close by granulation. The double rubber drainage-tube was placed in the bladder thus formed. The seat of operation was covered with towels wet in a hot 3% boracic solution, and they were changed frequently for a number of days. The girl made a rapid recovery, the wounds closing by first intention except those on the side purposely left open to avoid traction on the flaps, and in less than three months she was dressed and playing about the wards. A plaster cast was taken of the parts, and a hard rubber shield with urinal attached was fitted. This the patient still wore. The patient, now a fine, healthy girl, was presented to the association.

Dr. W. T. Briggs, Nashville, Tenn., read a paper on

THE CHOICE OF OPERATIONS FOR THE REMOVAL OF URINARY CALCULI.

It can hardly be said that there is any best operation; that is best which is best performed.

In determining the choice of operation, the various conditions of the patient and of the stone are to be considered. Lithotomy has been very successful in patients under twelve years. Gross reports one death in thirty-six. The reader had had seventy-one cases: all were successful. The operation is quick, easy, and safe. Litholapaxy in children is more difficult and dangerous.

After puberty the crushing operation is generally the best. In advanced age the increased size of the prostate, the lessened resistance to morbific causes, the proneness to suffer from inflammations of the urinary organs, etc., make every operation hazardous. Litholapaxy is the best operation. The reader stated that in his experience lithotomy has been attended with good results even in the aged. Old age alone does not constitute a barrier to either operation.

Where the stone is small, soft, and smooth it is easily crushed. Where it is hard, large, of urates or oxalates, it often resists the lithotrite. Where, then, the stone is large and indurated, encysted, and sacculated, where there are old, indurated, tortuous strictures, where the urethra is intolerant, where there are prostatic enlargements, overgrowths, and tumors with residual and putrid urine, where there is severe and chronic inflammation of the bladder, he would perform lithotomy.

Lithotrity is now superseded by Biglow's method; the operation is completed in one sitting; is more successful than the old method.

Methods of lithotomy: 1. Supra-pubic method. Mortality, 30%. This method is advisable (*a*) when the stone is of large size, and not easily removable by an incision in the urethra being from one and a half to two inches in diameter; (*b*) when the calculus is lodged high up behind the pubes, and is more accessible by a supra-pubic incision; (*c*) in deformity of the pelvis, with narrowing of the inferior strait; (*d*) where there is great prostatic enlargement and concentric hypertrophy of the neck and base of the bladder. A very large stone cannot well be brought through the urethra and perineum without lacerations.

2. The lateral method: This is the most frequent method; is the most dangerous as to hæmorrhage; is the most likely to wound the prostatic capsule.

3. The median operation: Is the best. There is less section of tissue than in the other methods. The raphe is the safest point for the extraction of stone. But a large calculus cannot well be removed by this incision. If to the median a moderate bilateral incision be added, made in the deeper seated structures, the dilatability of the prostate and perineum is almost incalculable. This operation he styles the *medio-bilateral*. It is the shortest and most direct road to the bladder, and divides parts of the least importance. There is no danger of wounding the seminal ducts. The operation is almost bloodless. The median operation gives plenty of room for a middle-sized stone, but if you add to this operation a nick on either side of the neck of the bladder, the deep-seated parts admit of extension to almost any degree. This lateral nick (made by a scissors invented for the purpose by the reader) need not be more than six lines in extent. If the stone be too large to be easily removed, it may be fragmented.

The median or medio-lateral method leaves the parts in the best condition for drainage. The wound often heals by first intention. Out of Dr. Briggs' 136 cases, there were but three deaths.

Dr. A. T. Cabot, of Boston, read a paper on

LITHOLAPAXY.

In Dr. Cabot's opinion litholapaxy was the operation of choice for the removal of most stones. In modern surgery the test of merit was determined by the results. The best operation was the one which saved the most patients, other things being

equal. There were three methods of operation to choose from: (*a*) perineal lithotomy,—median and lateral; (*b*) supra-pubic lithotomy; (*c*) litholapaxy. Each had advantages, and each dangers and difficulties to be recognized and avoided. Each case must be studied for itself, and that operation chosen which would best meet the difficulties and avoid the dangers of that particular case.

We could not compare the results in patients at very different ages. The mortality of children after operation upon the bladder was distinctly less than in those of advanced ages.

Cases might be grouped under three categories: (1) children up to fourteen years; (2) adults from fourteen to fifty years; (3) old men from fifty years upwards. This, of course, was somewhat arbitrary.

Owing to recent improvements in technique and the influence of the adoption of general antiseptic methods the statistics of old times could not be accepted.

TABLE I. — Statistics of perineal lithotomy. Number of cases collected in children, 355: mortality 3.1%; in adults, 79 cases: mortality 7.6%; in old men, 19 cases: mortality 15.7%. Freyer collected 987 cases. In these the rate of mortality up to twenty years was 5.1%; from twenty to forty 10.7%; above forty 31.9%. Rosenthal in 400 cases gave the following: one to five years, mortality 3.5%; six to eleven, mortality 2.1%; twelve to sixteen, 8.4%; seventeen to twenty-nine, 15.7%; above thirty, 38.8%.

TABLE II. — Statistics of supra-pubic lithotomy. Number of cases collected in children, 265: mortality 10.9%. In these were included the phenomenal statistics of Assendelft, of Russia — 103 cases without a death. In old men the mortality was 42.1%.

TABLE III. — Statistics of litholapaxy. Number of cases collected in children, 115: mortality 3.5%; in adults, 149: mortality 5.3%; in old men 188: mortality 8%. Guyon had a mortality of 5.2% in 647 cases of all ages.

In children, therefore, judging from the mortality, there was little choice between lithotomy and litholapaxy. Supra-pubic lithotomy was a little more dangerous.

It was somewhat unusual to see serious interference with the functions of the parts. Supra-pubic incision sometimes caused fistulous opening. Perineal operations were much more likely to cause serious trouble. The lateral incision had the advantage of giving more room and of endangering only one duct. Incontinence occasionally resulted from perineal incision owing to interference with both sphincters of the bladder; and fistulæ, though rare, sometimes occurred, and might be persistent and troublesome.

In regard to completeness of cure, it was not uncommon to see a second or third attack of stone in the same patient, (1) on account of persistence or reappearance of the uric acid diathesis: the same might be true of the oxalate of lime stone; (2) successive escape of several stones from the kidneys might give rise to successive stones in the bladder; (3) several phosphatic stones might be reproduced after removal if the chronic cystitis and alkaline urine which led to the original formation persisted; (4) if a fragment was left after the operation it might serve as a nucleus of another stone. A healthy bladder that completely expelled the urine usually freed itself of such fragments.

Selection of operation: With children it would seem wise to use litholapaxy for all small stones, — stones up to two centimetres in diameter. This operation did not involve danger to the seminal ducts and did not give rise to fistulæ and incontinence of urine. Litholapaxy was the operation of choice in adults. Stones weighing 2000 to 3000 grains had been crushed and removed. A large and very hard stone might resist every attempt at crushing, and the stone might have as a nucleus a foreign body too hard to crush. Stricture of the urethra might prohibit litholapaxy. False passages might exist which so interfered with the introduction of instruments that the dangers of the operation were enhanced. The stone might be so lodged in the entrance to the urethra that it could not be pushed back and seized with the lithotrite. Occasionally cases were met with in which the prostate was so large that the stone could not be reached. The supra-pubic operation would apply to most cases not to be dealt with by litholapaxy.

DR. DUDLEY P. ALLEN, of Cleveland, read a paper on

LITHOLAPAXY IN CHILDREN.

The object of the paper was to point out the cases to which this operation was adapted. The reader alluded to Freyer's results with the lateral lithotomy, and expressed the opinion that with time and experience litholapaxy might yield similar results. In cases of large calculi the supra-pubic operation had its advantage on account of the difficulty, in case litholapaxy was done, of pumping out the fragments. Litholapaxy was not a cutting operation, and there was not likely to be so much delay before patients submitted to operation. In cutting operations union by first intention was rare in any save the supra-pubic method. Thus far no operation confined the patient to bed so short a time as litholapaxy, and it could in no way injure the reproductive apparatus. The advantage gained by seeing the interior of the bladder, as in the supra-pubic method, had been urged as a point in favor of that operation. In boys, however, encysted stones were uncommon and the bladder was usually in a healthy condition, so that the necessity of seeing its interior was small. One great difficulty in litholapaxy was the small size of the instruments that must be used. In some cases, even after incising the meatus, the urethra was so small that the instrument could not be introduced. Where an operator found a very large stone, it would be better to abandon litholapaxy and do lithotomy.

Beyond question, the operation of litholapaxy in children was one which must be recognized as particularly suited to medium and small sized stones, and though medium and lateral lithotomy were very successful in such cases, he believed litholapaxy would be equally successful in skilled hands. It had the advantage of absence of cutting, of slight suffering, and of short confinement. In case of return of stone, the second operation would be more easy than the first on account of the

increase in the size of the urethra with the increase in age. Large and hard stones should be removed by the supra-pubic operation, especially if for any reason it was desirable to see the interior of the bladder. Median lithotomy was favorable in cases of small stone. In case of medium-sized stone, where the urethra was not large enough for the introduction of the instrument, lateral lithotomy was indicated.

DR. J. W. S. GOULEY, of New York, in opening the discussion, said the operation of lithotrity was indicated in cases where the stone was free, friable, and of small or medium size. In certain cases, plurality of stones was not a contraindication. The patient should be in otherwise good physical condition, urethra ample or susceptible of being rendered so. The existence of stricture was not a contraindication to cysto-lithotrity, provided the urethra could be freely dilated or enlarged by internal incision; but a narrow stricture in the perineal region contraindicated lithotrity by the perineal route and generally demanded cutting operation. In cases of thick bars at the neck of the bladder, and tumors of the prostate, lithotrity was not always practicable and cutting operation sometimes required. When the bladder contracted and its capacity was markedly diminished, or it was irritable, perineal cystotomy was indicated and lithotrity contraindicated. Advanced disease of the bladder, ureters, and kidneys contraindicated both lithotomy and lithotrity.

As a general rule, multiple short sittings (one to three minutes) were applicable to patients whose bladders were only moderately tolerant, three or four such sittings, with the introduction of the lithotrite, four or five days apart, usually being sufficient to cause the spontaneous expulsion of all detritus of friable stones one inch in diameter. One or two long sittings (ten to fifteen minutes), with five or six introductions of the lithotrite, sometimes sufficed to remove from tolerant bladders the major part of a friable stone one to one and one-fourth inches in diameter, the remainder of the detritus being spontaneously expelled. Cysto-lithotrity at one sitting, with aspiration of the detritus, was said to be contraindicated when the stone was large and there existed urethro-vesical obstruction, but it was often performed in violation of both these contraindications. The sittings of lithotrity averaged two minutes. Prudence demanded intervals of four days between sittings, twelve days in all being consumed in effecting a cure. His own cases were ambulant cases.

Against litholapaxy it might be said that the sittings lasted two hours; that the process of aspiration itself was so much more painful than the crushing that anæsthesia was rendered necessary, and this objection was well taken when we considered the ill effects on the kidneys from the inhalation of sulphuric ether in case anæsthesia was to be prolonged one or two hours. Litholapaxy was no longer a novel operation, having been performed many hundred times since 1878. The great expectations of its advocates were not realized, for the operation could not always be terminated at one sitting; it was not suitable in a number of cases of large stones; it was not applicable in many cases of stone complicated with prostatic obstruction. It had been too often misapplied by the over-zealous to medium-sized and small stones adapted to lithotrity at one or two short sittings. In many cases the injury inflicted upon the bladder had led to cystitis and the formation of phosphatic stones; and with the necessarily prolonged anæsthesia the operation was too dangerous to be generally employed. Litholapaxy applied to a very limited class of cases was a very good operation in the hands of skilled and experienced lithotritists, but too much of an undertaking for beginners or those not constantly occupied with surgery. That many bladders had been sacrificed in this way was no fault of the operation, but of the operator.

In cases of small friable stones weighing a few grains the operation of lithotrity was justifiable and safe in children under five years of age; lithotomy was safer in such children when the stone exceeded one-half inch in diameter.

The general conclusion of the reader was that the proper choice of treatment of urinary concretions could only be made after careful consideration of each method and each case, there being no generalizable method.

In reply to a question in regard to vesical irritation by fragments Dr. Gouley said he thought that was generally very greatly exaggerated. The sharp, angular fragments of the worst kinds of stones did less harm than we were asked to believe. The epithelium of the bladder had the property of throwing out on the slightest irritation a considerable amount of thick mucus so called, which adhered to the fragments, forming an envelope which was so protective that the fragments of such size as would pass spontaneously through the urethra slipped out without causing much irritation. Sixty per cent. of the stones of diathetic origin consisted of uric acid and the urates. These stones of uric acid and the urates were highly granulable and underwent disgregation, without disintegration of the particles, upon the ingestion for several weeks of the potash salts. Now the lithotrite effected the same result without any alkali. The great majority of stones could be crunched into a coarse powder or granular state; and these granules of uric acid caused little or no irritation and were passed out. He frequently crushed these stones in this way, in his office, without pain and without anæsthesia.

DR. R. T. MORRIS read a paper on

WHAT DRESSING SHOULD LIE NEXT TO THE WOUND?

Dr. Morris alluded to the various methods of dressing wounds, and said that if we applied any textile fabric, as bichloride gauze, etc., the connective tissue cells would shoot into the fabric and delay healing, and if such dressings had to be removed we destroyed a large part of the tissue nature had put across the wound for purposes of repair. To obviate such a result he recommended the use of Lister's protective oiled silk, in that the connective tissue cells became organized with the greatest ease and without the irritation that followed the application of any of the textile fabrics. In the suppurating wound, to get clot replacement was almost impossible by any other means. In skin grafting, the little cells shooting out would penetrate any

textile fabric and the graft might die. If, however, Lister's protective oiled silk, properly prepared, were placed next the graft the result would be striking; the thin blue film of epithelium remaining undisturbed was an evidence that we had covered our grafts with the best dressing. In wounds containing pus we must first use peroxide of hydrogen to make the granulating wound chemically clean, and over that Lister's oiled silk, and then no more pus would form.

Over the Lister oiled silk we could apply any absorbent dressing we wished — bichloride gauze, salicylated gauze or cotton, or any of the absorbent dressings, which dried it so that micro-organisms could not grow in it readily.

DISCUSSION.

DR. H. O. MARCY, Boston, said he agreed in very large measure with Dr. Morris with reference to the wound he had under discussion. He had long treated them by Dr. Morris's method; and the use of Lister protective dressing in a wound that must necessarily be a granulating wound, and which had been rendered aseptic, gave better results in his hands than any other dressing. In an operative wound, however, he would differ from the reader. In such wounds the coaptation must be absolute and the wound aseptic. The edges of the skin being in close apposition needed no other protection than just drying them by blowing on iodoform. Then a few layers of cotton completed the dressing. This left nature entirely to herself, not a stitch to remove, the tendon suture having been used, nothing to drain, no effusion, agglutination and repair went on rapidly.

DR. PANCOAST, Philadelphia, called attention to iron-dyed black silk he had had made and was in the habit of using. White silk was dyed with lead and was not pure silk; when dyed with iron and washed with acetic acid it was pure silk. The fine black silk suture would remain for weeks in the tissues without suppuration or inflammation.

(To be continued.)

ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY,[1]

HELD IN MECHANICS' BUILDING, BOSTON, JUNE 11, 1889.

SECTION IN OBSTETRICS AND GYNÆCOLOGY.

DR. J. B. SWIFT, of Boston, read a paper on

THE THIRD STAGE OF LABOR.

The third stage of labor was the period following the birth of the child until the placenta has been delivered and firm uterine contractions established.

Dr. Swift reviewed the theories of Baudelocque, Schultze, and others as to how the placenta became separated.

In all probability the normal separation of the placenta and membranes did not take place until after the birth of the child.

As to the management of the third stage of labor, there were still advocates of an entirely expectant treatment. It was claimed that by the expectant method there was a better separation of the decidua, and the membranes were not so apt to be retained; but, on the other hand, more blood was lost, and uterine relaxation took place, allowing clots to form in the uterus. There were still advocates of traction on the cord, but most of them advised that the traction should not be too strong, and should be combined with pressure on the uterus by the other hand.

His own method was to follow the uterus down with the left hand, which was kept on the uterus till the binder was applied, and sometimes later. The cord was tied and cut and the child put one side. Then the patient being turned upon the back he waited until the uterus was felt to contract, and if the sensation of something passing out of it was felt and it was growing smaller, with the hand spread out over the uterus he pressed gently downwards in the direction of the axis of the pelvic brim. The placenta, as it appeared at the vulva, was caught in the right hand and twisted around, while being drawn out, so as to roll up the membranes. The placenta being born, the uterus was still held by the left hand, a dose of ergot administered, the soiled clothes removed as far as possible from beneath the patient, a wad of antiseptic cotton placed over the vulva, and the physician sat by the bed with his hand holding the uterus while the nurse was washing and dressing the baby, which took about an hour. Then the patient's toilet was attended to and the binder applied.

If after twenty minutes by the watch contractions had not begun we might in most cases endeavor to excite them. It was the duty of the physician to hold the uterus himself.

DR. C. M. GREEN, of Boston, said he agreed with the reader as to the duty of the physician during the third stage of labor. A great deal of post-partum hæmorrhage was due, he believed, to the fact that the uterus was left to take care of itself too soon after the child was born and the placenta delivered.

After the birth of the child he was in the habit of stimulating uterine contractions by cupping the fundus with the left hand and exercising a sort of circular friction movement over the fundus, but did not at that time use force upon the uterus. If one-half hour passed without successful contractions he would exercise the Crédé method. While the nurse was bathing the patient and removing the soiled clothes he still kept his hand upon the fundus. When the woman was ready for the binder he padded the uterus and adjusted the binder himself.

DR. EDWARD REYNOLDS, of Boston, thought that so long as the uterus was watched by the hand to a degree sufficient to prevent post-partum hæmorrhage, it made very little difference to the patient what method was used in the application of Crédé's method. The uterus should not be left unguarded by the hand during the third stage. Constant pressure of the hand over the uterus and slight friction movements were sufficient in practically all cases to do away with all post-partum hæmorrhage. He thought he had seen metritis and perimetritis follow too forcible application of Crédé's method. He preferred always to manage the third stage of labor with the patient on the back all the time, and preferred for her not to turn

[1] Continued from page 638.

upon the side at all. Care should be taken not to express the placenta too suddenly and violently in case of an already slightly torn perineum. If the obstetrician's hand was strictly clean early removal of the placenta, though seldom necessary, was a very simple proceeding and one devoid of danger.

DR. J. P. REYNOLDS, of Boston, said he was very sure that a trained hand should be kept over the patient's uterus during the whole toilet. It was remarkable to notice how high the percentage of disease and death was from this simple matter of the expression of the placenta. Rough and careless handling of the uterus was to be strictly avoided. In case, however, the patient presented alarming symptoms, the very first thing was to empty the uterus without a moment's delay.

DR. SINCLAIR, of Boston, said the too hurried withdrawal of the placenta or the too harsh manipulation of the uterus was to be deprecated, although every one knew that one could never be sure of exemption from hæmorrhage unless he had the uterus in the palm of the hand.

DR. W. E. BOARDMAN, of Boston, read a paper on

ASEPTIC OBSTETRICS.

Dr. Boardman's paper was intended to show that puerperal septic disease was scientifically demonstrated to have a bacterial origin, and it was immaterial for our present purpose whether we accepted the chemical or the vital theory of their action; that it was probable that most of the local affections incident to the puerperium belonged to the same septic class of diseases; that these occurred throughout the State, in both rural and urban districts, more commonly than physicians had been willing to admit, and, this being true, it might readily be understood that deaths from this cause, and the much more numerous cases which survived to become more or less chronic invalids, entailed a serious burden upon the welfare and prosperity of families and the State; finally, that the experience in hospitals exhibited the adequacy of due prophylaxis to prevent septic disease.

Dr. Boardman described the various methods which have been employed in the past for the prevention of puerperal septicæmia. The rules adopted, while correct in principle, were defective owing to lack of knowledge as to the precise details required to ward off the disease.

In conclusion, Dr. Boardman called attention to what might now be considered necessary in the way of prophylaxis.

1. Filth implied decomposition and invited the presence of septic germs; hence perfect cleanliness was demanded.

2. The proper contraction of the uterus should be promoted and its proper position secured, so that no obstruction to the exit of lochial discharges should exist.

3. The vulva should frequently be bathed in a disinfecting solution, and after a tedious or laborious labor, or when artificial or instrumental delivery had been necessary, it was important to give a vaginal douche of a hot disinfecting fluid, which should be extended within the uterus if its cavity had been entered by the hand or by instruments, and also if a putrid child had been born.

4. Perineal lacerations should be united, in order to avoid the exposure of extensive raw surfaces to the action of the germs.

5. At the completion of the labor a napkin or towel wet with the disinfecting fluid should be placed against the vulva.

6. Finally, the toilet of the patient was to be made complete, all soiled clothing removed, and the vulvar napkin applied. Both the physician and the nurse should be governed by rigid rules of absolute personal cleanliness. Their hands should be disinfected. Due attention to hygiene, etc.

These rules were especially required during the first week of the lying-in period.

DR. PORTER, of Auburndale, said that in the use of antiseptics in the hospitals and in private practice the mortality had been reduced as much as in small-pox by vaccination and isolation. He wished to draw two inferences: (1) that the discussion of antiseptics in obstetrics had increased the attention to cleanliness, if not the direct use of antiseptics in pregnancy; (2) that it was likely to become in the near future the exception for obstetric cases not to be treated antiseptically.

DR. CRAWFORD, of Roxbury, said she most heartily believed in antisepsis. We could not safely pin our faith to any one of the reputed germicides or trust to them except as accessories to the one certain safeguard — perfect cleanliness of everything about the person of our patient, particularly the instruments, the hands, and the clothing of those who use them. Dr. Crawford spoke of the merits and efficiency of boiling water, or its equivalent, steam, as a germicide. In the cleansing of hollow instruments care should be taken to have the instruments completely filled with the boiling water. Many of our most valuable antiseptic agents were often rendered useless or harmful in the hands of the ignorant or unskilled. There were so many details upon which immunity from danger depended that it might be doubted if the comparatively simple operation of washing out the uterus, for instance, could be left to any except highly skilled obstetricians.

DR. E. M. BUCKINGHAM, of Boston, said he thought that carbolic acid in any strength possible to be injected into the vagina was not an antiseptic to be relied on. He believed the use of moderately carbolized injections of such water as we were likely to get in most places, that was not boiled, was far more dangerous than to let the patient absolutely alone. In making the treatment positively aseptic the toilet of the hands was perhaps the most important thing. He thought the antiseptic pads were unquestionably efficient. A simple and good substitute was the napkin dipped in corrosive sublimate and dried. In the use of the catheter it seemed to him wiser not to use the same catheter for two patients. In two instances he had seen a slight irritation in the urethra from the passage of a catheter which had been wet with corrosive sublimate.

DR. O. H. EVERETT, of Worcester, said he had not adopted the antiseptic treatment to the extent of using corrosive sublimate and carbolic acid as freely as some who had spoken; but he believed in perfect cleanliness, which thus far had been satisfactory; still it had been his fortune to see cases of

puerperal septicæmia, whether from neglect on his part he had not been able to determine.

DR. C. W. STEVENS, of Charlestown, said he had been able to carry out the strict antiseptic treatment in a somewhat modified form among the very poor classes, notwithstanding their ignorance, obduracy, filth, or anything else, because he did it himself. The expense was nothing to them and very slight to him.

DR. Z. B. ADAMS, of Framingham, said he still believed that the use of the douche in normal midwifery was bacteriology run mad. In his opinion, the vaginal or intrauterine douche was indicated in case of foul lochia. There was danger in the use of too weak solutions of carbolic acid and of corrosive sublimate, as well as in the use of too strong solutions. He had seen cases of poisoning produced by mild solutions of bichloride, that would not have been produced by strong solutions: that, however, he would not state as a positive fact. He had nothing to say against the germ theory of disease or the necessity of keeping out the germs in puerperal fever.

DR. DUNBAR, of Boston, wished to put himself on record as an advocate of aseptic midwifery, whether antiseptic was another question. In normal cases he used no douches; but in complicated cases and in all instrumental cases he used injections of corrosive sublimate (1 to 2000) followed by injections of hydronaphthol to wash out any superfluous corrosive sublimate.

DR. MARION, of Brighton, desired to place himself decidedly on the side of asepsis. It was his custom to give a bichloride douche before labor in all cases where there had been a leucorrhœa during the last month or two of gestation, and by so doing he thought there was less ophthalmia in the new-born.

Dr. Marion called attention to linear laceration of the vagina, which occurred sometimes without laceration of the perineum, which, if detected at the time of occurrence and repaired in accordance with the rules laid down by Dr. Emmet, would save a great deal of suffering to the patient in after life, and a very tedious operation later.

DR. J. F. COUCH, of Somerville, said he did not use douches before or after labor: did not douche the genital canal unless there was necessity for so doing. That necessity was evidenced by some peculiar rise in the temperature or some peculiar condition of the patient. He used bichloride on the hands and hydronaphthol on the instruments.

DR. T. S. GREENE, of Dorchester, said he had had less anxiety and less difficulty with his cases since adopting the aseptic method of treatment.

DR. C. M. GREEN, of Boston, said that at the Lying-in Hospital the custom at present was to give a vaginal douche before labor, for the benefit of the child as well as that of the mother. The vaginal douche did not do harm to the mother and did diminish the risk of ophthalmia. In his own private practice he regarded it unnecessary in some cases to give the douche during the first stage. If there had been no leucorrhœa and the lady was of cleanly habits, he did not feel that it was absolutely necessary; nor did he invariably give a douche at the conclusion of labor. Provided the labor was normal, no instruments used, and the examinations few, he did not necessarily do it.

Aseptic midwifery could be carried out among the poor exactly as well as among the rich. In the clinic of the Harvard Medical School, in which the students in the year delivered about five hundred cases, we did not have septicæmia or women sick with septic fever. These women lived in unhygienic quarters, did not have clean sheets, pads — lucky if they had the ordinary towel — and they did not have septicæmia; and why? Because the students were taught to take care of their hands.

He had a supreme contempt for the purported asepsis of a great many. The mixing up of corrosive sublimate and dipping one's hands into it was far from asepsis. The hands should be first washed with soap and water and a good, stiff nail-brush used before they were dipped in corrosive sublimate. He questioned whether it was not our duty after using forceps to boil them. The simple immersion of the forceps in 1 to 20 carbolic would not, he believed, make them thoroughly aseptic. He thought we should not bring discredit upon the practice of aseptic midwifery when the failures were due to our own fault in not taking extreme precautions.

DR. W. E. BOARDMAN, of Boston, in closing the discussion, said there was a difference of opinion with regard to the strength of the solution to be used. As we were not all chemists or bacteriologists we had to rely upon practical experience. He knew of no better practical experience than the experience of the Boston Lying-in Hospital, which had been entirely freed from septicæmia by the means used; and it was fair to presume that the means used were the efficient means to kill bacteria.

DR. C. P. STRONG, of Boston, read a paper on

THE SURGICAL TREATMENT OF BACKWARD DISPLACEMENTS OF THE UTERUS.

Dr. Strong made two distinct divisions of backward displacements: —

1st. Backward displacements which were not adherent. 2nd. Backward displacements in which there existed union by slight or firm adhesions between the uterus and adjacent viscera or pelvic walls.

The treatment of the former class was limited to the best means to be adopted for retaining in its normal position the uterus which cannot be replaced manually; in the latter, the additional consideration of how first the uterus might be freed from its abnormal position and subsequently secured.

The simplest plan for the separation of the adhesions was rupture or tearing off the adhesions without any cutting operation. During the past three years he had done the Schultze operation, somewhat modified, in more than twenty cases. Only two required further surgical treatment for a recurrent displacement.

It was unwise to attempt a forcible reposition if there was present any acute inflammatory process; if the adhesions connected the fundus in broad bands with the investing membranes of the rectum; if the adhesions were found to be lateral, involving, as they probably do in that case, the tubes or

ovaries, or both; if they had resulted from an attack of general peritonitis; if it was fairly probable that tubular disease is present.

In the treatment of the non-adherent backward displacement the problem to be solved was to perfectly secure the uterus as nearly as possible in its normal anterior position in the safest, surest manner. The recognized methods were: 1st, the operation known as shortening of the round ligaments at the inguinal ring, or the Alexander-Adams operation; 2nd, direct fixation of the uterus forward by stitching it to the anterior abdominal wall or to some anterior portion of the pelvic lining; 3d, shortening of the round ligaments within the abdominal cavity, without destruction of their continuity.

Summary.— From the results of his own operating, he had drawn for his guidance the following rules: —

Be sure the displacement is the cause of the symptoms.

Never resort to operative measures without first exhausting all forms of non-surgical treatment in so far as they may be applicable to the case under consideration.

An adherent backward displacement of the uterus demands for its cure, first, separation of its adhesions; second, anterior fixation.

A backward displacement which is free or has been freed from its adhesions may be secured forward —

First, by shortening of the round ligaments, either by the Alexander-Adams or Wylie method.

Second, by fixation of the uterus to the peritoneum of the anterior abdominal wall, or to that of the anterior pelvic floor (Schücking's method).

The Alexander-Adams method was the only one not involving interference with the peritoneum, and should, he believed, be selected. He made an exception that if, for any other reason, the abdomen had been opened, the Wylie operation might perhaps prove its equal.

DISCUSSION,

DR. F. H. DAVENPORT, of Boston, said that these cases of backward displacement, especially with adhesions, had been looked upon as the *bête noir* of gynæcology and hardly to be remedied at all. The question to-day was not, can this woman be cured? but, by what method shall we cure her? Sänger of Leipsig considered that 20% of the cases of backward displacement were to be operated upon, and were not curable by non-operative measures. He thought those who had practised the method of overcoming the adhesions and replacing the uterus by systematic packing and tamponning the vagina would hardly confess to failure in 20% of the cases.

He agreed with Dr. Strong as to the value of gradual separation of the adhesions in preference to laparotomy. One should not be hopeless too soon about cases in which there were apparently firm adhesions. He had seen such cases yield after months of treatment by tamponning.

DR. E. W. CUSHING, of Boston, said the question of interference in these cases must depend on the social condition of the patient and where she comes from. There seemed to him to be three indications to justify opening the abdomen: 1st, to get the woman out of bed, where she is practically bed-ridden; 2nd, to keep the woman practically out of the poor-house, when she is depending on her own exertions; 3rd, where the woman lives in a place where she can't get treatment.

DR. BURT, of Boston, said that usually, unless there was something, as diseased tubes or ovaries, which needed abdominal incision, he should not feel justified in making an abdominal incision.

DR. H. C. BALDWIN'S paper on

THE NON-RADICAL TREATMENT OF CANCER OF THE UTERUS AND VAGINA

was read by title.

(To be continued.)

Recent Literature.

The Principles and Practice of Dentistry. By CHAPIN A. HARRIS, M.D., D.D.S. Twelfth edition, revised and edited by Ferdinand J. S. Gorgas, M.D., D.D.S. Philadelphia: P. Blakiston, Son & Co. 1889.

If Chapin A. Harris were to come from his grave and see the child fathered upon him, he would not recognize his own offspring. A diligent search, however, would disclose the "strawberry mark."

This twelfth edition, even more so than its predecessors the tenth and eleventh, is almost a new book, much having been rewritten, much added, and a great deal dropped out as obsolete, superseded by new methods and new discoveries. The book still retains its distinctive form, and as a resumé of the whole science and art of dentistry is now, as it always has been, unlike and unsurpassed by any work of the same character covering similar ground. It is well edited. There is very little of that "padding" which detracts from the value of so many medical, and especially dental, books, the penny-a-line kind of writing, but all is terse and to the point. The volume is an encyclopædia of dentistry, invaluable to the dental student and to the practitioner who has not ceased to be a student.

The various branches of the art are taken up in turn, and quite fully treated, from the anatomy of the mouth and face to the construction of artificial palates. Nothing seems to have been neglected or overlooked. Dental prosthesis, vulgarly called mechanical dentistry, in its new and wonderful development, has received its due share of attention, though we miss the full descriptions of the manufacture of porcelain teeth found in the older editions, become almost obsolete in the dental laboratory, but now, thanks to the cleanly and efficient gas furnaces, being brought to the front again. The value of the book is proved by the numerous editions that have been called for, while the excellence of the editing and the general style of the printing leaves little to be desired.

— The Kansas City *Star* says that "Washburn college is to have a medical department, which will have a tendency to popularize cremation at Topeka."

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DR. BARRY'S REPORT TO THE LOCAL GOVERNMENT BOARD UPON AN EPIDEMIC OF SMALL-POX AT SHEFFIELD, ENGLAND, IN 1887-88.

THIS is one of the most thorough and exhaustive reports upon an epidemic of infectious disease which the Local Government Board of England has yet issued, and contains in its three hundred and four quarto pages a complete history of the scourge from which the city of Sheffield suffered in 1887-88. In the number of the population, the rate of mortality from small-pox, and in some other characteristics, this epidemic bore a marked resemblance to that with which Boston suffered in 1872-73.

The *Sanitary Record* comments on the misrepresentation of this epidemic by those who are wont to decry vaccination, attributing "an outbreak of small-pox in a community so well vaccinated as that of Sheffield as being an evidence of the futility of vaccination. The facts of this epidemic, as now known, constitute one of the most complete vindications of vaccination ever observed."

The report comprises the following topics: a general description of the district; the origin and progress of the epidemic; action of the local authorities; circumstances which influenced the spread of small-pox; and the direct pecuniary cost of the epidemic.

Sheffield is a manufacturing city, having an estimated population (in 1887) of 316,288. The number of reported cases of small-pox for the year ending March 31, 1888, was 6088; the number of deaths from small-pox was 590. The rate of those attacked was therefore 19.3 per 1000 of the population, and the mortality rate from the same cause 1.86. The experience of former epidemics in other localities appears to have been repeated in Sheffield in the fact that hospitals for small-pox in crowded localities play the part of "small-pox distributors."

The report dwells minutely upon the changed incidence of small-pox from childhood to the period beyond the age of ten, and justly attributes the change to vaccination, a "rite," as the opponents of vaccination termed it, which was much more commonly practised since 1872. By a thorough house-to-house visitation it was found that less than 1 per cent. of the school children of Sheffield were unvaccinated, and about 2 per cent. of the people of all ages were unvaccinated. So that, as Dr. Buchanan states in his introduction to Dr. Barry's report, "this 2 per cent. of the population claims to be regarded as so many seventeenth or eighteenth century people scattered about Sheffield for the very purpose of having themselves compared, under nineteenth century conditions of life, with the law-abiding people of the present day."

Comparing the immunity of the vaccinated as compared with the unvaccinated in this epidemic, the rates were as follows: for 100,000 vaccinated children the rate was 9 deaths, and for every 100,000 unvaccinated children the mortality rate was 4,400.

The attack-rate of the vaccinated was 5 per 1000, and of the unvaccinated it was 101.

The vaccinated children had therefore, as compared with the unvaccinated, a twenty-fold immunity from attack, and a four hundred and eighty-fold security against death by small-pox. If the vaccinated children of Sheffield had been attacked at the same rate as the unvaccinated there would have been nearly 7000 attacks among such children instead of the actual 353, and nearly 3000 deaths instead of the actual six. Of the children living in houses actually invaded the attack-rate was 78 per 1000 in the vaccinated, and 869 per 1000 in the unvaccinated, while the death-rate was only 1 per 1000 in the vaccinated, but 381 per 1000 among the unvaccinated. As regards persons over ten years of age, the attack-rate in persons twice vaccinated was 3 per 1000, in persons once vaccinated 19 per 1000, and in persons not vaccinated it was 94 per 1000, whilst the death-rate among those twice vaccinated was 0.08, among those once vaccinated it was 1, and among persons not vaccinated 51.

In the wards and offices of five hospitals there were one hundred and sixty-one persons in attendance on the sick. Of these eighteen had had small-pox before their engagement and none of them became sick; sixty-two persons (nurses) had been vaccinated in infancy only, and of these six were attacked and one died. The remaining eighty-one

persons had been successfully revaccinated and none of them contracted small-pox.

There was also a similar immunity among the vaccinated troops, police force, and post-office officials.

Dr. Barry's report concludes with a statement of the direct cost of the epidemic, and shows that the authorities expended over £32,000 in combating the disease. He also adds: "This expenditure forms but a fraction of the total money loss to the city. Among the losses of which no exact estimate can be formed must be reckoned loss of wages, expense of doctors, maintenance of the sick, cost of funerals, etc. The loss to trade cannot be guessed at. Sheffield was avoided by all outsiders except those whose business was imperative, and even these did not sleep in the town if they could avoid it. The hotels were empty and the people were boycotted by the inhabitants of neighboring towns. In one month (February, 1888) the tramways alone carried 200,000 fewer people than usual."

The report is very abundantly illustrated with maps, tables, and diagrams. In the latter a commendable departure from the stereotyped methods is introduced, and diagrams are presented which appeal at once to the common sense of the intelligent inquirer.

Dr. Barry's report may be commended not only to boards of health as a model of sanitary investigation, but also to all who doubt the efficacy of the recognized measures for the prevention of small-pox.

THE TESTICLE AS A REJUVENATOR.

Twenty years ago, at least, Dr. Brown-Séquard exhibited tendencies towards a belief that the testicle might be of value for other purposes than the impregnation of the ovum, provided it was taken when young, — that it was competent, when its vital principles were properly injected for the respective purposes, not only to call into existence the very young but to rejuvenate the aged.

It seems that this idea has continued to germinate in the brain of the learned, but eccentric, physiologist all these years. In 1875 he made experiments with grafts of testicular tissue upon dogs, and to his delight succeeded, as he thought, in renewing the youth of one wretched old cur. Since then he has continued these strange investigations at various times, and during the month of June this year made two separate communications to the Société de Biologie of Paris upon this subject, describing the methods used and the supposed results. He, apparently, thinks he has discovered a sort of *elixir vitæ*, or fountain of perpetual youth, of simpler composition than those elixirs so sedulously compounded by the mediæval philosophers, and easier of access than the elusive fountain which enticed poor Ponce de Leon to his fond and fatal journey.

According to the reports of Brown-Séquard's communications given by the French journals, he has been experimenting with a fluid obtained by crushing and washing the testicles of young animals, which was mixed with blood from the spermatic veins and water. This fluid he injected into his own subcutaneous cellular tissue almost every day for two weeks, with results so gratifying that he hastened to communicate them to his biological confrères. Notwithstanding his ripe age, between seventy and eighty years, he experienced a rejuvenescence of all his forces, physical and mental. The former healthy and vigorous contractility of the intestines and bladder had returned, as also had his general muscular strength. Intellectual labor had again become easy to him.

Dr. Brown-Séquard did not succeed apparently in inoculating his hearers with his own enthusiasm for his procedure. Scepticism and physiological objections found expression through MM. Dumont-Pallier and Féré. Nor did the society treat his results with sufficient seriousness to discuss the question as to the value of the ovary for similar purposes, or as to the possible results of injecting subcutaneously an ovarian aqueous extract into the male and a testicular extract into the female.

MEDICAL NOTES.

— The city of Ann Arbor, Mich., has voted to issue bonds for $25,000 for the erection of a hospital, for which the legislature appropriated $50,000.

— The death is reported of Prof. Dr. Robert Ultzmann, of Vienna, at the early age of forty-seven years. His book on urinary analysis has been translated into English.

— Dr. Cornet has collected, under the auspices of the German Government, and has collated, statistics showing an alarming frequency of tuberculosis among nurses. His conclusions are published in the Philadelphia *Medical News*, and show that tuberculosis is nine times more frequent among them than among other classes. All infectious diseases also are more frequent among nurses until the fortieth year of life. The statistics therefore clearly demonstrate that the life chances of nurses do not compare favorably with those of other people. Death occurs among them at the average age of about thirty-six years — "an average shorter life

than that of workmen exposed to the inhalation of injurious dust, by eight or ten years."

— At the annual meeting of the New Hampshire Medical Society, held at Concord, June 18, officers were elected as follows: President Dr. William Child, of New Hampton; vice-president, Dr. Lyman B. Howe, of Manchester; secretary, Dr. G. P. Conn, of Concord; treasurer, Dr. D. S. Adams, of Manchester; executive committee, Drs. C. R. Walker, of Concord; G. D. Towne, of Manchester, and J. K. Kimball, of Suncook.

— The South Bend, Ind., *Tribune* gravely states that "a child born recently near Clinton, Ind., and which lived but two hours, was granted before its death the gift of speech long enough to promulgate the following words, which were spoken as plainly and distinctly as a child 6 or 7 years old. It said: 'The present season's crops will be an entire failure, and the succeeding year the world will have reached that long-looked-for and predicted time — the end.' The truth of the above is vouched for by many of the citizens of that section of the country, and the more superstitious predict that it is the forerunner of some great calamity."

— The mental process whereby a medical expert, however honest he may be in original and even in final intention, becomes partisan in his testimony is well described as follows in a late address of Dr. Samuel B. Ward, of Albany, before the Medical Society of the State of New York: —

"The physician selected as an expert considers his case carefully; he reads up the various authorities, paying, of course, considerable attention to those whose views agree with his own, and mentally remarking what sensible men they were, while the impression formed of those who differ from him is not nearly so complimentary. He looks up the records of similar cases in medical journals, and finally goes on the stand well prepared to answer truthfully the questions previously arranged to be asked him on the direct examination. During this investigation of the case it is sometimes curious to observe how the expert's opinions will become strengthened in the direction of the side which he has espoused. Without any real additional arguments having been brought to light he will incline to give more and more weight to facts which seem to favor his view, and become more and more inclined to make light of, or even to ridicule, facts or opinions which militate against him. He often ends by being honestly persuaded that there ought to be no manner of doubt on points which are in reality very doubtful and which at the outset he willingly admitted so to be."

NEW YORK.

— A resolution has been adopted by the board of health directing Dr. Tracy, registrar of vital statistics, to make a daily report of all deaths which occur in tenement houses from pulmonary and intestinal tuberculosis and from tubercular meningitis, and to transmit the same to Dr. Cyrus Edson, chief of the Bureau of Contagious Diseases. Dr. Edson has also been directed to formulate a system of rules for the management of patients in tenement houses suffering from tuberculous diseases.

— Dentists looking out for a place in which to locate would do well to avoid, for the present at least, the 25th ward of Brooklyn. In this district of the city the increase in the population is said to have been quite remarkable during late years; but the number of dentists seems to have increased even more rapidly in proportion, so that competition is now very lively. Two years ago the regulation charge for extracting teeth was one dollar each. Competition compelled a reduction to fifty cents, and this rate was maintained until the 1889 spring graduations of the dental colleges took place, when the price was lowered to fifteen cents per tooth, or two for twenty-five cents.

Miscellany.

SLOW INCREASE OF POPULATION IN FRANCE.

AT a recent session of *La Société d'Anthropologie de Paris* M. Chervin presented a communication upon the slow increase of population in France, considering in detail the various larger geographical regions, and endeavoring by comparison to determine the causes which thus hinder the French in the international world-progress. He gives an interesting mass of facts regarding climate and natality (*natalité*), yet, after all his comparison of data, concludes that the matter has to be undertaken anew, and carried to more particularized detail of study, having the examination of smaller geographical districts in view, before any reasonable origin can be assigned for this comparative decrease of inhabitants. Such an investigation he is disposed to undertake, the results of which he hopes to give to the society.

MAINE REGISTRATION BILL DECIDED NOT TO BE A LAW.

IT will be remembered that on the 17th day of March, 1887, both branches of the Maine legislature passed to be enacted an Act entitled "An Act to Regulate the Practice of Medicine." This Act was signed by the President of the Senate and Speaker of the House on the forenoon of the same day. The Act was then presented to the governor for approval. Gov. Bodwell, soon after receiving the bill, signed it, and it was sent to the secretary of state and placed in the official custody of that offi-

cer as a bill which had become a law. The fact of the governor's approval was entered upon the books kept in the office of the secretary of state known as "Blotter" and "Register." In the afternoon of the same day (the 17th of March) the governor recalled the bill and drew his pen through his signature, and then caused the Act, with his line drawn through his signature, to be sent to the Senate, together with a paper stating his objections thereto. The Senate did not pass it over his objections.

In 1888, Stephen H. Weeks, as president of the Maine Medical Association, in the name of the attorney-general, and by his authority, petitioned the chief justice of the Supreme Court for a writ of mandamus against Oramandel Smith and Charles W. Tilden, the former secretary of state and the latter secretary of the Senate, commanding them to "restore said approved Act, entitled 'An Act to Regulate the Practice of Medicine,' to its place among the Acts of the State in the office of the secretary of state."

The contention of the petitioners was practically that the Act become a law when Gov. Bodwell signed it, and deposited it in the office of the secretary of state, and that his subsequent recall of it and erasure of his signature exceeded his power and did not invalidate the Act. The case was argued for the petitioners by the Hon. C. W. Goddard and Judge J. W. Symonds, and for the secretary of state and deputy secretary of the Senate by Attorney-General Orville D. Baker.

The decision of the court, which is very lengthy, has just been given. It denies the petition and declares that the Act is not a law.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 29, 1889.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption	Diarrhœal Diseases.	Whooping Cough.	Diph. and Croup.
New York	1,571,558	864	512	36.40	10.10	29.40	1.32	5.28
Philadelphia	1,040,245	493	257	22.40	11.60	16.80	.60	2.40
Chicago	830,000	224	117	25.20	12.10	10.80	.90	7.65
Brooklyn	814,505	514	362	38.76	7.22	31.16	1.91	3.04
Baltimore	500,343	221	134	40.95	6.30	40.00	.45	—
St. Louis	450,000	179	97	25.08	6.84	21.66	—	2.28
Boston	413,567	185	63	20.52	13.50	8.00	1.62	8.64
New Orleans	250,000	125	56	24.80	12.00	14.40	—	8.00
Cincinnati	225,000	136	—	27.38	6.66	7.35	—	6.66
Washington	225,000	136	76	28.86	5.92	22.94	.74	—
Pittsburg	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	30	14	33.33	6.66	23.33	—	—
Charleston	60,145	—	—	—	—	—	—	—
Portland	40,000	8	1	—	25.00	—	—	—
Worcester	78,292	21	11	23.80	19.04	23.80	—	—
Lowell	71,518	44	30	53.68	12.20	51.24	—	2.41
Cambridge	65,552	20	9	45.00	20.00	30.00	—	15.00
Fall River	62,647	23	9	4.35	21.75	4.35	—	—
Lynn	53,334	20	—	—	15.00	—	—	—
Springfield	40,731	13	5	38.45	7.69	24.07	—	15.38
Lawrence	40,619	26	14	46.20	—	34.65	—	11.55
New Bedford	37,253	9	3	—	—	—	—	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	10	4	40.00	—	—	—	40.00
Brockton	28,813	10	1	10.00	40.00	—	—	10.00
Chelsea	28,167	9	—	33.33	11.11	—	11.11	22.22
Haverhill	26,058	13	6	29.76	—	29.76	—	—
Taunton	25,170	—	—	—	—	—	—	—
Gloucester	24,263	7	—	—	42.84	—	—	—
Newton	21,553	5	—	20.00	20.00	—	—	—
Malden	19,774	10	2	20.00	10.00	10.00	—	10.00
Fitchburg	17,534	8	3	—	12.50	—	—	—
Waltham	17,332	8	2	12.50	12.50	—	—	—
Newburyport	13,875	4	1	25.00	25.00	—	—	25.00
Northampton	13,726	—	—	—	—	—	—	—
Quincy	13,728	6	5	33.33	—	—	—	16.66
Woburn	12,822	—	—	—	—	—	—	—

Deaths reported 3381; under five years of age 1794; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 1055, consumption 331, acute lung diseases 203, diarrhœal diseases 766, diphtheria and croup 147, whooping-cough 32, measles 31, typhoid fever 25, scarlet fever 22, cerebro-spinal meningitis 16, malarial fever 14, erysipelas 3, small-pox (Chicago) one. From measles Cincinnati 13, New York 6, Philadelphia and Brooklyn 5 each, Chicago and Waltham 1 each. From typhoid fever, Philadelphia 5, Baltimore 4, Boston 3, New York, Chicago, Brooklyn and Washington 2 each, St. Louis, Cincinnati, and Newton 1 each. From scarlet fever, New York 7, Chicago and Baltimore 4 each, Philadelphia and Washington 2 each, Brooklyn St. Louis, and Nashville 1 each. From cerebro-spinal meningitis, Cincinnati 4, New York, Chicago, and Washington 3 each, Boston, Nashville, and Quincy 1 each. From malarial fever, Brooklyn 5, New Orleans 3, New York and Baltimore 2 each, Philadelphia and Nashville 1 each. From erysipelas, Chicago 2, Brooklyn 1.

In the 28 greater towns of England and Wales, with an estimated population of 9,555,406, for the week ending June 22nd, the death-rate was 16.7. Deaths reported 3055; infants under one year 757; acute diseases of the respiratory organs (London) 171, measles 115, diarrhœa 105, whooping-cough 76, scarlet fever 47, diphtheria 34, fever 22, small-pox (Manchester) 1.

The death-rates ranged from 9.9 in Brighton to 27.1 in Manchester; Birmingham 16.6; Blackburn 15.5; Hull 25.3; Leeds 21.9, Leicester 15.6; Liverpool 16.9; London 14.9; Nottingham 11.2; Portsmouth 14.0; Sheffield 17.7; Sunderland 18.3.

In Edinburgh 18.0; Glasgow 22.4; Dublin 18.6.

The meteorological record for the week ending June 29, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps: —

Week end'g Saturday, June 29, 1889.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.*			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8 A. M.	8 P. M.		Daily Mean.	8 A. M.	8 P. M.		8 A. M.	8 P. M.		8 A. M.	8 P. M.		Duration. Hours & Min.	Amount In inches.
June 23	30.16	65.0	76.0	56.0	74	67		70.0	W.	W.		18	8		C.	C.			.00
" 24	30.42	66.0	75.0	55.0	61	64		62.0	N. W.	S. E.		8	4		C.	H.			.00
" 25	30.43	64.0	76.0	57.0	69	63		66.0		S.			12		H.	O.			.00
" 26	30.26	68.0	81.0	60.0	77	91		84.0	S. E.	S.		5	13		O.	O.		0.10	T.
" 27	30.11	74.0	84.0	69.0	84	78		81.0	S.	S. W.		13	11		O.	O.		0.15	T.
" 28	30.16	74.0	80.0	67.0	84	84		84.0	W.	S.		6	6		F.	O.		0.20	T.
" 29	30.13	70.0	82.0	64.0	86	88		87.0							O.	C.		2.26	.11
Means for the Week																			

* O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM JUNE 29, 1889, TO JULY 5, 1889.

The leave of absence for one month granted Major J. K. CORSON, Surgeon, by par. 2, S. O. 65, c. s. Department of the Columbia, is extended one month. Par. 1, S. O. 45, Headquarters Division of the Pacific, June 24, 1889.

Leave of absence for twenty-five days, to commence on or about July 2, 1889, is granted Captain A. R. CHAPIN, Assistant Surgeon, U. S. Army. Par. 6, S. O. 145, Division of the Atlantic, June 27, 1889.

GIBSON, R. J., Captain and Assistant Surgeon, U. S. Army, reports arrival July 2, 1889, at Camp Lewis, Fisher's Island, N. Y., in compliance with par. 5, S. O. 133, Division of the Atlantic, which designated him as M. O. for the encampment (rifle practice) at Fisher's Island, N. Y.

By direction of the Secretary of War, leave of absence for two months is granted Captain GEORGE T. BEALE, medical storekeeper. Par. 8, S. O. 148, A. G. O., June 27, 1889.

BOOKS AND PAMPHLETS RECEIVED.

The Physicians' Leisure Library. The Treatment of the Morphia Disease. By Erlenmeyer. Translated by E. P. Hurd, M.D. 1888.

Ueber Ichthyol-Behandlung des Erysipelas. Von Dr. Von Brunn (Lippspringe). Sonder-Abdruck. Berlin. Heft No. 5. Mai, 1889.

Beobachtungen über das Ichthyol nach dreijähriger Anwendung. Von Dr. von Hoffmann, Dirigent der Augenheilanstalt, und Dr. Lange, pract. Arzt, in Baden-Baden. Sonder-Abdruck. Berlin. Heft No. 5. Mai, 1889.

Aus dem Russischen der Moskauer Medicinischen Rundschau. Von DDr. A. Buljeff, W. N. Sorokin, S. Preobrashensky, W. L. Shadkewitsch, J. Jelin. Separat-Abdruck. Berlin. 1889.

De la Lobéline dans la Thérapeutique de L'Asthme. Mémoire présenté au 1er Congrès Brésilien de Médecine et Chirurgie, et lu, devant le même Congrès, à la Séance du 15 Septembre, 1888. Par le Dr Silva Nunes. Rio de Janeiro. 1889.

Papers read before the Medico-Legal Society of New York. From its organization. First series. Third illustrated edition. New York. New York Medico-Legal Association. 1889.

An Essay on Asphyxia (Apnœa). By George Johnson, M.D. F.R.C.P., etc. London: J. & A. Churchill. 1889.

Thirteenth Annual Report of the Sea-Shore Home for the Summer of 1888. Boston. 1889.

Medical and Surgical Reports of the City Hospital of the City of Boston. Fourth Series. Boston. 1889.

A Contribution to the study of Friedreich's Ataxia. With Exhibition of Cases. By J. P. Crosier Griffith, M.D., etc. Reprint.

The Old Hospital, and other Papers. By D. B. St. John Roosa, M.D., LL.D. Second revised and enlarged edition of "A Doctor's Suggestions." New York: William Wood & Co. 1889.

Morrow's Atlas of Venereal and Skin Diseases. William Wood & Co., New York. 1889. Nos. 14 and 15.

Transactions of the Medical Society of the State of New York for the year 1889. Published by the Society. 1889.

Transactions of the American Orthopædic Association. Vol. 1. Published by the Association. 1889.

Darwinism: an Exposition of the Theory of Natural Selection, with some of its applications. By Alfred Russel Wallace, LL.D., F.L.S., etc. With map and illustrations. London: Macmillan & Co.; and New York. 1889.

Pathological Report, 1887-88, of the City of London Hospital for Diseases of the Chest, Victoria Park, E. By Sidney Martin, M.D. (Lond.), Assistant Physician to the Hospital, late Pathologist and Registrar. Printed for the Victoria Park Hospital. 1889.

A System of Obstetrics by American Authors. Edited by Barton Cooke Hirst, M.D., associate Professor of Obstetrics in the University of Pennsylvania, etc. Volume II. Illustrated with 221 engravings on wood. Philadelphia: Lea Brothers & Co. 1889.

Synopsis of Human Anatomy, being a complete compend for Anatomy, including the anatomy of the viscera, and numerous tables. By James K. Young, M.D., Instructor in Orthopedic Surgery etc., in the University of Pennsylvania. Philadelphia: F. A. Davis Publisher. 1889.

Maladies de la Langue. Par le Dr. Henry T. Butlin, Chirurgien assistant et professeur de Chirurgie pratique et de Laryngologie à Saint-Barthalomew's Hospital. Traduit de l'Anglais par le Dr. Douglas Aigre, ancien interne des Hôpitaux de Paris. Paris: Aux Bureaux du Progrès Médical, 14 Rue des Carmes. 1889.

Manuel Pratique de la Garde-Malade et de L'Infirmière. Publié par le Dr. Bourneville, Médecin de Bicêtre, Directeur des Ecoles municipales d'Infirmières. Avec la collaboration de MM. Blondeau, de Boyer, Ed. Brissaud, Budin, P. Kéraval, G. Manoury Monod, Poirier, Ch. H. Petit-Vendol, Pinon, P. Regnard, Sevestre, Sollier, et P. Yvon. La 4me édition revue et augmentée. Tome i.: Anatomie et Physiologie. Tome ii.: Administration et comptabilité hospitalière. Tome iii.: Pansements. Tome iv.: Femmes en couches; Soins à donner aux aliénés; Médicaments. Petit Dictionnaire. Tome v.: Hygiène. Paris: Aux Bureaux du Progrès Médical, 14 Rue des Carmes, Paris. 1889.

Original Articles.

CLINICAL OBSERVATIONS IN AURAL PRACTICE.[1]

BY J. ORNE GREEN, M.D.,
Clinical Professor of Otology in Harvard University.

MALIGNANT DISEASE OF THE EAR.

CASE I. A woman, aged fifty-eight, was taken with pain in the left ear in the summer of 1887, which was soon followed by otorrhœa, and the whole history was at first the common one of purulent inflammation of the tympanum with perforation of the drum-membrane. No systematic treatment was followed, and the otorrhœa continued with occasional but slight pain. In the autumn the pain increased, the ear became sensitive on lying upon it, and in November slight œdema appeared, both in front, below, and behind the auricle, and paralysis of the facial nerve in all its branches occurred.

I saw her then for the first time, and found very marked œdema over the mastoid and a sensitive bone; slight œdema below and in front of the auricle, with slight redness of the skin. There was no fluctuation. The meatus was full of very thin muco-purulent matter, and, after cleansing, was found filled with exuberant granulations which concealed the deeper parts. The meatus was exquisitely sensitive, so that thorough exploration with the probe was impossible. The pain for a week or two had been very severe, and there was moderate fever, with a weak and slightly irregular pulse, by which the patient had been much reduced. The facial paralysis included all branches of the nerve and was almost complete. There was no family history to arouse suspicion. The deafness was total in that ear.

From the œdema and tenderness of the mastoid, the obstructions in the meatus, and the great pain, I advised an immediate opening of the mastoid and a thorough clearing out of the meatus to insure perfect cleansing and drainage. A few days after, the operation was done at the Massachusetts General Hospital. No pus was found beneath the periosteum, and after exposure of the bone the mastoid cells were opened in their extreme upper part with the gouge and hammer, the cortex of the bone being a little over one-eighth of an inch in thickness. The granulations in the meatus were removed by the snare, and the probe then detected a caries involving the whole tympanum and the deeper parts of the osseous meatus. With curved aural curettes in the meatus as much of this carious bone was removed as possible, and a free communication was established between the mastoid opening and the tympanum and meatus. A drainage-tube was inserted in the mastoid, the whole douched daily with carbolic solution, 1 : 60, and kept under an aseptic dressing. For three or four weeks the pain was greatly relieved and the fever disappeared entirely, but it was found that the caries was extending andseveral minute bits of necrosed cancellated structure were removed from the mastoid.

The subsequent history extends over a period of eight months: the pain gradually returned, of a dull grinding character, in the ear and over that side of the head; the discharge, never thoroughly purulent, became more sanious and offensive in spite of cleansing twice a day, and the bone very slowly disappeared in the discharge without any sequestra forming. At the end of four months the edges of the wound began to break down, and soon after exuberant granulations appeared on the anterior lip of the wound. These slowly increased till they reached a size of three inches in length, two in breadth, and two in thickness; at first smooth, they gradually became somewhat nodulated, and masses sloughed away frequently; in two or three spots they broke down, forming new openings into the mastoid cavity. Whenever examined with the probe the bone was felt to be very friable, the instrument being readily pushed directly into its structure. During the last two months the pain was frequently lancinating and referred chiefly to the region of the ear. Although complaint was made of the neck and left shoulder, no enlarged glands were ever discovered, or any cause for the pain in those regions.

About nine months after the operation, and fourteen months from the beginning of the aural disease, the patient died from exhaustion, which had steadily but almost imperceptibly been increasing for several months.

No microscopical examination was made at any time, for the extreme sensitiveness of the growth forbade any attempt to remove any portions of it.

CASE II. A man, aged fifty-seven, of good family history, had suffered three years before from "nervous prostration," from which he had partially recovered. Early in the spring of 1888, from a cold, as he said, he had severe pain in the right ear, which lasted some days but passed away without otorrhœa. In April, a few weeks after this first attack, there was a recurrence of pain, with discharge, and in May a small growth was removed, as was said, from the floor of the meatus. The pain greatly increased after this, the discharge continued, and in July another growth, resembling a polypus, was removed from the meatus, although from what part could not be ascertained.

In August, when I first saw him, he was in an extremely nervous state, the pain was continuous and severe in the ear, and there was a temperature of 102° and a pulse of 120. Close to the auricle, both below and behind, there was great œdema of the skin but not marked tenderness of the mastoid bone. There was distinct fluctuation below the auricle, between the mastoid and lower jaw. The meatus was filled with fleshy masses which completely closed the passages and was exuding an abundant muco-sanious secretion. All of the inflamed parts were exquisitely sensitive to the touch. A minute drainage-tube was worked into the meatus, and immediately on reaching the deeper parts gave exit to a considerable amount of secretion, and pressure on the fluctuating swelling below brought out much more discharge, showing a free communication, and that this swelling was a gravitation abscess from the ear. A small rubber drainage-tube was kept in the meatus, through which the abscess was evacuated twice a day, and the whole ear cleansed by carbolic solution. After a few days of this treatment the febrile reaction entirely subsided and there was less pain; by in-

[1] Read before the Boston Society for Medical Observation, March 4, 1889.

spection and by the probe, however, it was found that the whole osseous meatus and tympanum were denuded and carious. The external œdema diminished but did not disappear.

The patient was kept under observation for about two weeks and then returned home to have systematic cleansing and drainage carried out till either a sequestrum should form which could be removed, or further developments occur. One symptom strongly roused my suspicions during the period in which I had him under observation: this was a slow but constant melting away of the soft structures of the meatus, so that when he left the edges of the ulceration had extended from the osseous meatus nearly to the auricle.

The subsequent history is brief. In my absence Dr. George W. Leland was called to see him, and furnishes the remaining history. He found the meatus again filled with flesh-like growths and the gravitation abscess so filled that it was opened; the caries still existed. The removal of the growths and opening of the abscess gave much relief to the pain. Examination of the urine showed desquamative nephritis. Complete paralysis of the right facial existed at this time, and the tissues at the seat of incision showed a yellowish infiltration. Dr. W. W. Gannett reported as follows on the growth which was removed: "It showed a superficial layer of many-layered flat epithelium, in which, and extending below, were hairs in hair-follicles. The underlying tissue, composing all the rest of the part removed, was made up of small round cells embedded in a stroma of connective tissue. There was no uniformity in the stroma, the amount of fibrous tissue in parts being small, in other parts abundant and in bundles; the distribution of the fibres was irregular. In the tissue were several small arteries.

"We have to do here with a tissue belonging to the connective tissue series. So far as the microscopic examination goes it might be simply a chronic inflammatory connective tissue. Again, it may form part of a sarcoma. The distinction between the two can only be made by determining the size of the remaining portion. If considerable it is a sarcoma; if slight it is probably of inflammatory origin.

"So far as the evidence to be derived from the small bit is concerned, it is rather more in favor of an inflammatory product than a sarcoma."

Ten days after, Dr. Leland found that the cavity at the bottom of the canal was much enlarged, the walls having disintegrated. There was no return of pain or of new growths.

Some ten days later the cavity of the middle ear had become very much larger, but no sequestrum could be found. Weakness was increasing, and œdema and ascites showed themselves. Three weeks after this he died from exhaustion, without new symptoms, about seven months after the beginning of the ear-disease.

After death, the nurse reported that a mass of cotton as large as her fist was required to fill the meatus, showing that a very large cavity had been excavated by the disease.

CASE III. A woman aged thirty-one passed into my hands upon going on duty at the Massachusetts Eye and Ear Infirmary on November 1. She was a stout, well-nourished woman, in whom an otorrhœa on the left side had existed from three years of age, undoubtedly a chronic, purulent inflammation of the tympanum. The summer before she had applied at the infirmary for acute mastoid inflammation, and a subperiosteal abscess was incised by Dr. Jack. The wound never healed, and in September, as it was found that there was a fistula through the bone and caries within the mastoid, a second operation was done by Dr. Jack and the carious bone curetted.

When I first saw her there were two small openings in the skin over the mastoid, and the meatus was closed by a general swelling, not œdematous, of all its walls. There was an abundant sanious discharge from the mastoid openings and from the meatus. The left cheek was much swollen and œdematous. A probe showed that nearly the whole of the petrous portion of the temporal bone had disappeared; the probe passed directly inwards from the mastoid opening for fully two inches, and forwards and inwards for fully three inches, without any bone being felt; backwards the edges of the carious bone could be felt. Deep pressure showed a circular depression over the malar bone three-fourths of an inch in diameter and at the same time forced secretion from the meatus, showing a communication with the ear.

There was scarcely any pain except after manipulations of the inflamed parts. Injections passed freely from the meatus out of the mastoid openings.

Some days after, slight chills, fever, pain in the ear, and complaint of weakness showed themselves, but passed away in a few days under careful evacuation and cleansing of the diseased cavity. A firm swelling then appeared close to the auricle below and behind, not painful and not sensitive. This increased in size, broke down in two spots behind the auricle, and the edges of the openings became rapidly irregular. In the course of two weeks this swelling extended from the lobule backwards for one inch, upwards for one inch, and forwards for another inch, and showed distinct nodules, four or five in number. No enlarged glands could be discovered. The deafness on that side was total. Despairing of relief the patient left for home. Two months after she was seen by one of the attendants of the infirmary, who reported that the tumor had more than doubled in size. She died February 28th.

The diagnosis of malignant disease in all of these cases was made from the clinical history. I regret extremely that in none of them was it possible to make any microscopic examinations, and especially that it was not possible to get a thorough examination of the petrous bones to decide on the pathological variety of the disease and its place of origin.

Notwithstanding, however, the lack of microscopical confirmation of the diagnosis, in Cases I. and III., the development of the external tumors late in the disease goes very far to confirm my opinion of its malignant nature, these growths presenting all of the macroscopical characters of malignancy in rapid growth, nodulation, and rapid breaking down. The second case, it is true, did not develop any growth externally; but the rapid

ulceration of the soft structures of the meatus without any apparent cause, such as pressure or retention of pus, certainly suggests malignant disease. This patient, it will be noticed, died much earlier in the disease than the others, and never reached the extensive destruction of the bone which was found in both the other cases and which in both preceded the external growths.

All three cases were peculiar in their course, and were early recognized as different from the ordinary cases of caries. It is not easy to define all of these little peculiarities. The characteristic which particularly struck me was the rapid and extensive destruction of the bone by complete disintegration without the formation of any sequestra, and this in a bone containing a large amount of cancellated structure, which usually separates very readily when inflamed for any length of time.

Whether the original disease was malignant in Cases I. and II., or whether the malignancy was a subsequent development upon a simple purulent inflammation of the tympanum, must remain undecided. In Case III., however, there can be no doubt that the malignancy was of recent origin, as the otorrhœa had existed for twenty-four years.

In connection with these cases I show a drawing of a round-celled sarcoma of the ear, the case having been published in the *Archives of Otology* in 1884. In this case also the malignant disease developed upon a purulent inflammation of the tympanum of seventeen years' duration. The drawing was taken some two months before death; the growth afterwards increased enormously, and at death was nearly half as large as the patient's head.

All of the three cases reported offer demonstrations of the difficulty of diagnosticating malignant disease within the tympanum or bone in its earlier stages; and now, in putting together and reviewing them, I see nothing except the clinical history, as the case proceeds, which can give us a clue to the true malignant nature of the process. The character of the discharge, the exquisite sensitiveness in two of the three cases, the extensive and general infiltration of the tissues about the meatus and the mastoid, might all of them arouse suspicions, but none of them are conclusive evidence of malignancy. Finally, I do not myself believe that microscopical examination of the growths from the meatus would be at all satisfactory, for I have no doubt that many, if not all, of these are simple inflammatory granulation-tissue, and do not represent the disease, which I believe is seated in the bone itself.

PAROTID TUMORS DUE TO INFLAMMATION OF THE TYMPANUM.

Case I. A man aged forty-seven applied to me for deafness and an otorrhœa of two years' duration and facial paralysis of two months' duration. The facial paralysis was preceded by pain in the ear of three days' duration, and had gradually increased till it was almost complete. Just in front of the auricle was a firm, oval, freely movable tumor of the size of a filbert, which the patient said appeared quite suddenly soon after the pain in the ear and with the facial paralysis. It was painless and not sensitive on pressure. So fully was he impressed with the idea that the paralysis and the tumor were connected that I advised his seeing another surgeon, who pronounced the tumor a parotid tumor and independent both of the paralysis and the ear-disease.

Examination of the ear showed a purulent inflammation of the tympanum, with a loss of the lower half of the drum-membrane and very great swelling of the mucous membrane over the promontory. Two or three applications to the tympanic cavity by means of the tympanic syringe reduced the swelling, and it was then found that the edge of the promontory, over a surface somewhat larger than a pin's head, was carious. This was cleaned off by a minute curette and treated by iodoform. At the end of six weeks the tympanic inflammation had subsided, the bone had healed, and there was no discharge. The tumor, which had remained throughout the treatment just as when first seen, within five days after the cessation of the tympanic discharge disappeared and never returned, although one year afterwards, accompanying the development of a disease of the lungs, probably phthisical, there was a slight attack of inflammation of the same tympanum.

The facial paralysis gradually improved, and at the end of a year no deformity of the face was visible, although it was impossible for him to whistle and there was still a feeling of numbness.

This was the first case in which my attention was called to a possible connection between some of these tumors and the ear. I was able afterwards to recall two or three instances where patients had consulted me about similar tumors, when I saw them with reference to ear-disease, but I had always pronounced the tumors independent of the ear.

Case II. Some two years after the above observation, a man aged about twenty-five appeared at the City Hospital with a profuse, offensive, chronic suppuration of the tympanum of several years' duration. About a quarter of an inch in front of the tragus was a firm oval tumor, freely movable, about the size of an almond, which he said had existed for three months only. It was exactly similar in character to the first, above described, being smooth, painless, insensitive, without redness or fluctuation.

The ear was treated by antiseptic cleansing and by applications to the tympanum, and within two weeks, as the offensive odor and the amount of discharge diminished, the tumor entirely disappeared. Unfortunately the patient ceased attendance as soon as somewhat relieved, and I know nothing further of the case.

Case III. A man aged fifty-seven applied to me on account of deafness and a parotid tumor which he associated together. This was some months after the last case.

The history was one of pain in the left ear about a year before, followed by discharge which continued for some weeks, since which time there had been some deafness and subjective noises. During the discharge from the ear the parotid tumor had developed, and had since remained without change and without symptoms.

Examination of the ear showed a drum-membrane thickened, retracted, and with a healed perforation in its posterior segment, the appearances undoubt-

edly due to a purulent inflammation of the tympanum at the time of his pain and otorrhœa. In the same spot as in the preceding cases was a tumor the size of a hazel-nut, presenting the same characteristics already described in the other cases.

As the ear in its present condition offered no signs of irritation, and as no change in the tumor had followed the healing of the ear months before, I could only advise the removal of the growth. His intelligent and positive account of the development of the growth at the time of the ear-disease, with my experience in the other two cases, led me to think that in this case we had to deal with a permanent hyperplasia which could only be gotten rid of by removal.

My presumption is that in all of these cases I had to deal with an enlarged lymph-gland in direct connection with the tympanum, although, as far as I know, anatomy has not, as yet, demonstrated this connection. The relief of the tympanic inflammation apparently removed the source of the glandular irritation and allowed the swollen gland to resume its normal condition. The cases are too few to prove this conclusively; but I have thought it worth while to direct attention to them in the hope that further observations may be directed to the possible connection between some, at least, of these small parotid tumors and tympanic suppurations.

Occasionally, during the last few years, I have found, with suppurations of the tympanum, a decidedly tender spot in the exact situation in which these tumors lie, but without any swelling being appreciable. This, I think, is probably due to a slight irritation of the same gland, not enough, however, to produce a perceptible enlargement. The glands which are usually enlarged with tympanic suppuration are those below the auricle, along the anterior edge of the sterno-cleido-mastoid muscle.

A CASE OF TUBERCULOSIS OF THE PERICARDIUM AND BRONCHIAL LYMPH GLANDS.

BY CHARLES C. TOWER, M.D., SOUTH WEYMOUTH.

MR. C. S. F. was a native of Canada, and for forty-eight years a resident of Weymouth, Mass. He was sixty-seven years of age, married, of Anglo-Saxon race, light complexion, florid countenance, and nervous temperament. He was six feet in stature, erect in figure, and his average weight was one hundred and eighty-five pounds. He followed the occupation of bootmaker up to fourteen years ago, when, his health being poor, he left the shop and the boot business, and became a man of all work, chiefly farmer.

On his mother's side his family history was consumptive, his mother and four maternal aunts having died of phthisis. Two sisters also died of this disease. All of these relatives died in the twenties or thirties. Of two brothers whose death preceded his, neither died of consumption, the age of one being forty, and that of the other unknown. One brother and one sister still survive him, the former in his seventy-third year, and the latter in her sixtieth, and both in good health. On the father's side there is no consumption.

Mr. F.'s general state of health was considered to be fairly good. He usually ate and slept well, and he was strong and free from indications of constitutional disease, except that when a young man of twenty he had, on his own statement, a bad cough attended with loss of appetite and strength, and was regarded by his friends to be in consumption. During my acquaintance with him, extending over a period of twenty-nine years, I recall attendance upon him for several ailments, which go to show that his health was not what may be termed vigorous. Some eighteen years ago he complained of a feeling of weakness and discomfort in the left hypochondrium, which lasted for a period of two or three years, and which on examination of the case appeared to be a muscular strain, the result of heavy lifting. He was also subject to gastric disorders, and suffered considerably from palpitation. The heart was repeatedly examined, but no organic disease detected, although there was observed an occasional intermittency of the pulse, which manifested itself throughout the remainder of his life. He was also troubled for a considerable period with fissure of the rectum, which finally healed of itself.

In 1876 he was confined to bed a couple of weeks with an attack of epididymitis following the mumps. Atrophy of the testicle supervened. At a later period he had rheumatic inflammation of the shoulder-joint, which lasted over a year. Early in November, 1887, after sitting during religious services in a warm church and then going into a cool vestry, he was seized with a fainting fit, and was not restored to consciousness for nearly an hour.

The last illness was developed after special exposure on Christmas night, a year ago. The attack commenced with hoarseness, succeeded later by cough, and the symptoms of acute bronchitis, for which in the latter part of January I was called in. Nothing peculiar in the nature of the cough impressed itself on my memory. The patient, at this my first visit, was about house, and even attending to his out-of-doors duties. I saw him a week later, when he was obliged to take to bed on account of an attack of acute rheumatism, which lasted throughout the month of February, and continued somewhat into March. This attack was manifested by the usual symptoms of the disease, viz., fever, swelling and pain of joints, copious perspiration, and the uric acid diathesis, and it was treated in the usual manner. The cough, however, showed no abatement but still continued, and demanded treatment for the comfort of the patient.

In April the condition was one of marked debility. Night sweats at this period were quite pronounced. The cough was harassing, disturbing the sleep by night and exhausting his strength by day. The pulse was weak and considerably accelerated, and the temperature elevated two to three degrees, especially towards evening. The action of the heart was at this time very feeble, and there seemed to be more prostration of the system than could be accounted for by his sickness, although the alkaline treatment employed to eliminate the uric acid from his system had undoubtedly in a measure impoverished the blood, as shown by the marked pallor of the surface of the body, and by the clammy state of the skin. But the most discouraging feature of the case was the persistency of the

cough, which was dry and paroxysmal, and the cause of which I had failed to demonstrate to my entire satisfaction, although it appeared to be due to reflex irritation. The seat of this irritation was referred by the patient to the larynx, and he began at this time to complain of a feeling of distress, referred to the sternal and cardiac region. Repeated careful stethoscopic examinations of the thorax failed to reveal serious disease of lungs or heart. There was good resonance on percussion over both lungs, and the respiratory murmur was clear and full, except as modified by a few muco-crepitant râles, which were most noticeable towards the base of right lung. The cardiac dulness was normal, and the heart-sounds not unusual in character, except feeble and distant, with possibly an occasional souffle, which condition was attributed to the rheumatic attack. The pharynx at this stage of the disease presented nothing remarkable, possibly slight congestion.

There being no improvement in the character of the symptoms during the next three weeks, the desire was expressed by the patient to enter the Massachusetts General Hospital for examination and treatment.

Arrangements having been made for the occupancy of a private room, he entered the hospital May 17. A statement of his condition, as copied in the case-book from a letter written by myself, was that it was one of debility, as indicated by failure in appetite, night sweats, loss in weight, and slight elevation in temperature. The most troublesome symptom was cough, which was described as spasmodic, and attended with very little expectoration. The record further says, "The patient complains of a tickling sensation in throat, which is excited by a deep inspiration or by speaking loud. Cannot lie on right side because of pain in front of right chest when in that position. Has dull, heavy pain in sternal region. Says when he swallows "the food causes pain all the way down to the stomach." Has to pass urine frequently. Appetite poor. Bowels regular. Examination: — Large man, somewhat emaciated. Tongue moist, clean. Examination of throat and nares by Dr. Langmaid shows nothing abnormal whatever. Good resonance over both lungs. Respiration everywhere vesicular. Over lower right back and axillary region a very few medium and fine moist râles. Heart apex in normal position. Sounds clear, but rather feeble. Abdomen normal. Pulse weak and soft.

May 18. Urine normal, acid; specific gravity, 1018. No albumen. Sediment contains considerable urates.

May 19. Patient is quite comfortable when up about the wards, but on lying down cough is troublesome. Complains of soreness in epigastrium and sternal region.

May 21. Has very little trouble from cough, but was nauseated for a time.

May 22. Appetite poor. Complains of pain and soreness across upper part of abdomen and in sternal region.

May 23. Patient discharged at his own request.

From this date the case went on with very little change in respect of the cough and the præcordial distress, except that as the weeks went by and the warm weather came on he took more exercise in the open air and his general condition somewhat improved. The night sweats entirely disappeared in the month of July, and his appetite and strength in a measure returned. The cough, however, did not improve, but on the other hand was more and more aggravated by the dorsal position, compelling him to lie with the shoulders considerably elevated. At this time he rode out daily and took short walks in the open air, so that his countenance became more natural in color. It was, however, always clear and fresh looking, and did not present a cachectic look.

In August the case was allowed to take its course to a large extent independent of drug treatment, until in the latter part of the month it came under the management of Dr. F. F. Forsaith, of Weymouth. He first saw and examined the patient at his office after he had taken a morning ride of three miles from his home. "He gave signs at that time," according to Dr. F.'s statement, "of great weakness, and was hardly able to support himself. He was very much emaciated, and presented the appearance of having within a recent period grown prematurely old. His appetite was reported as poor, and his digestion not good. He was a little constipated. There was present an incessant, harrowing cough.

Examination: — The area of dulness over hepatic region considerably enlarged, indicating an engorgement or hypertrophy of liver. The tongue was somewhat coated, especially at the base. There was no jaundice observed. The lungs on percussion were pretty clear. There was an area some two by three inches in extent, situated just to the right of the sternum and opposite the cartilages of second and third ribs, which was unusually resonant. There was no fullness in that location at that time, but at a later period the right anterior and middle portion of chest became unusually prominent. The lungs were pretty free from râles. They were more noticeable over region of right lung than left, and increased from apex towards base. While there was no sign of valvular disease of heart, its action was feeble and unsatisfactory. There was no increased area of cardiac dulness, and no displacement of that organ.

After a few weeks dulness was apparent at lower part of thorax on both sides, and the stethoscope showed a deficiency of the respiratory murmur, giving the idea of an accumulation of fluid. Early in September a soft swelling began to show itself over upper part of sternum, extending across that bone to the front of right chest in the location previously observed to be hyper-resonant. This tumor gradually increased in size, was painless, and to the touch appeared to contain fluid. Dr. F. is not aware that there was at any time any unusual cardiac dulness, neither was there any evidence of disease of the lung tissue. The temperature ranged from 101° to 103° and did not indicate imflammatory action. There was no evidence of the existence of rheumatism while under his observation, but some little trouble in urination was noted. The patient when first seen by him could lie down flat, but the cough was increased by so doing. As the case progressed he was obliged to have his shoulders more and more elevated in bed. Œdema of the feet and legs was noticed early in October, and continued till the close of life.

The case came into my hands a second time in the latter part of October, when Dr. Forsaith met me in consultation. The œdema had considerably increased, and marked dulness existed over base of thorax behind. The pulse was very small and weak, and from 90 to 100 in frequency. The respiration was also considerably accelerated. The position taken while in bed was bolt upright, and towards the last a support was placed in front for him to lean forward and rest his head upon. Any attempt at this time to lie on his back produced increased distress and aggravated the cough. The tumor already described as occupying the upper part of sternum and right front of thorax continued in much the same condition. There was good resonance over it, and the respiratory sounds were distinctly heard through it. Consequently there was no indication of the existence of aneurism.

About the 1st of November the patient was seen by Dr. W. C. B. Fifield, who aspirated the tumor with a small trocar. The fluid withdrawn was of the nature of bloody serum, and under the microscope showed no cancer cells. The case was, however, regarded as one of malignant disease, and no further treatment was advised.

Death occurred November 22, 1888, the mind remaining clear almost to the last.

At the autopsy, performed on November 23, the external tumor was found to contain about two fluid ounces of thick pus, which lay between the integument and the periosteum of the manubrium, burrowing between the cartilages of the first and second ribs of right thorax, and extending on under side of sternum about half-way across, but nowhere laying bare the bone. The abscess wall was adherent to the apex of right lung, but did not penetrate its substance. The upper lobe of left lung was friable and easily torn in separating the pleuritic adhesions to wall of thorax. The interior mediastinum, the pericardium, heart, pleuræ, and all the tissues underlying the sternum were involved in one mass of disease, and were sent to Prof. Fitz for examination.

Dr. R. H. Fitz reported, in regard to autopsy, that the pericardial cavity was obliterated by firm adhesions. Numerous cheesy plates and nodules, the largest perhaps three-fourths of an inch in the largest diameter and one-fifth of an inch in thickness, were found intimately connected with the parietal and visceral layers. Those of the substernal layer were continuous with similar nodules in the anterior mediastinum, the tissues of which were generally thickened. Small gray and opaque granules were also found in the pericardium.

The lymph-glands at the tracheal bifurcation formed a solid mass nearly as large as the fist. On section these glands were enlarged and cheesy, often softened into curd-like material.

The appearances were characteristic of a chronic tuberculosis of the pericardium and bronchial lymphatic glands. The former was probably the result of the latter, and had apparently extended to the tissues of the anterior mediastinum.

— The Amoskeag corporation of Manchester, N. H., has lately authorized the vaccination of its 8000 operatives at its own expense.

REPORT ON PROGRESS IN ORTHOPEDIC SURGERY.[1]

BY E. H. BRADFORD, M.D., AND E. G. BRACKETT, M.D.

PARALYTIC DEFORMITY OF THE FOOT.

Fisher[22] has given a very full and able description of the paralytic deformities of the foot, and has classified them with reference to the degree of distortion in such a way as to emphasize the mode of occurrence.

Talipes arcuatus.—The description of this very closely applies to Schaffer's non-deforming club-foot, the abnormal condition consisting in an increase in the height of the arch. This he considers results during the period of slight paralysis, as after scarlet fever, from the slight contraction of the plantar fascia; that later, as growth proceeds, there is a want of proper accommodation of the contracted parts, and an arching is thus brought about.

An aggravated condition of arcuatus constitutes a *talipes plantaris*, and this forms a link to equinus. The etiological conditions are the same as in arcuatus, but more severe, the extensors of the toes and tibialis anticus being particularly affected. In addition to the arching, the anterior part of the foot is depressed below its normal level, and bands of contracted tissue are found to draw this portion downward and backward.

Of *talipes equinus* three forms are described. The first results from a muscular condition similar to that in *plantaris*, and consists of a bending of the part of the foot anterior to the os calcis at a sharp angle. The distortion is maintained by the shortened condition of the ligaments of the sole and the short flexor muscles. Owing to the downward and backward dislocation of the cuboid and scaphoid bones, the head of the astragalus projects on the dorsum. Another, but less common form, more nearly resembles the spastic equinus, and consists of a flexion of the whole foot at the ankle-joint. Besides these two, a combination is sometimes met with and consists of a flexion of the foot with also a depression of the anterior portion, due to the imperfect action of muscles of this part. In some cases this condition becomes extreme. In the treatment of this combined form the shape of the foot should first be restored, and, later, tenotomy of the tendo Achillis.

The *varus* varieties he describes as the result of a paralysis affecting the extensors of the toes, but in which the tibialis anticus retains its integrity in whole or in part. The first degree of this deformity closely resembles a slight equinus, but in this the depression of the fore-foot is accompanied by slight inversion. With still greater deformity there is more marked contraction of the sole, and the front of the foot is rotated as well as inverted; only the outer metatarsals touch the ground, and the inner border of the foot is so raised that the great and second toes touch only on their tips. The heel is somewhat raised, and this deformity, in this respect as well as in the contraction of the sole, resembles some forms of equinus.

The next stage of this paralytic deformity resembles the usual form of equinus varus. There is rota-

[1] Concluded from page 37.
[22] Lancet, 1889, i. 112, 165, and 214.

tion at the ankle and transverse tarsal joints, and also a considerable amount of inversion. The bearing surface is on the outer border of the foot only, and there is a sulcus running antero-posteriorly along the front part of the sole, showing that the metatarsal bones are abnormally close. The heel is raised, and the toes are drawn upward and are claw-shaped. The deformity shows that a distortion resulting from an infantile paralysis may have the characteristics of the congenital form. Later in life aggravated conditions of the above are met with. For treatment he states: "The reduction of deformity in a case of advanced paralytic varus must be proceeded with in three stages: First, the inversion of the foot upon the leg must be removed; next, the distortion of the foot itself must be proceeded with; finally, having brought the case to one of simple equinus, with elevation of the heel, the usual course of treatment for such a condition is followed."

Another form of the paralytic varus is due to "right-angled contraction of the tendo Achillis." When raised from the ground there is merely a "state of flaccid extension, with slight contraction of the sole." When, however, the weight is borne on the foot, the heel is elevated; the foot is inverted and rotated so that the anterior part of the outer border is alone in contact with the ground." In these cases there is always marked paresis of the extensors of the toes and the peronei. In the act of walking the lateral displacement compensates for the want of flexion, and the use of the limb with the foot in this position tends to increase the deformity.

Of the *valgus* three varieties are described: One is due to a "right-angled contraction of the tendo Achillis," as in varus. The distortion is produced by standing on the foot, the loss of flexion being compensated by the rotation and eversion, which is brought about by the stronger action of the everting muscles.

A second variety results from a slight shortening of the tendo Achillis, and closely resembles "splay foot." There has been slight impairment of the anterior muscles, and the extensors have remained permanently shortened. The limited flexion at the ankle-joint is attended by an abnormal amount of motion at the medio-tarsal joint, which becomes weakened by the constant strain.

The third variety consists of a simple eversion of the foot on the leg, resulting from paralysis of the tibialis anticus and posticus. A light degree of this deformity, due to weakness of the inverting muscles, is frequently seen in children, but severe grades seldom occur before twelve or fourteen years.

The *calcaneus* is very seldom seen, and produces the least disability. "The muscular disturbance which precedes the development of this distortion consists in great loss of contractile power of the posterior muscles of the leg, with only slight weakening of the flexors (extensors?) of the foot. The power of extending the foot is extremely feeble or is altogether wanting, so that the heel becomes considerably depressed; the anterior muscles by their over-action increase the depression of the heel, and also distort the foot itself by drawing up that portion of it in front of the transverse tarsal joint." The plantar fascia becomes contracted and adds to the deformity. The treatment is not very satisfactory, the two methods which have given the best results being excision of a portion of the tendo Achillis, and the division of the plantar fascia; of the latter he speaks more favorably.

TORTICOLLIS.

Auvard [23] reports a case of congenital torticollis, which, considering the lack of accurate knowledge of the pathological conditions at the time of birth in this class of cases, is a valuable contribution to the knowledge of this disease. This case is of more value as the child was still-born, and therefore the condition must have existed *in utero*, and also as a careful autopsy was made. The infant was the seventh, and there was no history of any value. The delivery was physiological, although the presentation was unusual. The head was drawn toward the left shoulder, and the face raised and turned to the right. The attempt to correct this deformity was arrested by a tense subcutaneous band. In other respects the child was well formed. The autopsy disclosed the following: About the posterior fontanelle there was overlapping of the cranial bones, the left parietal over the right, and the left parietal over, and the right under, the occipital. These were not reducible. After section of the insertion of the sterno-mastoid and trapezius, the deformity could be partly overcome. In cutting this a considerable resistance was encountered, as in fibrous tissue. Complete rectification did not take place until division of the interspinous and supraspinous ligaments. No abnormal condition of the vertebræ was found, and there was no compression of the cord. The brain was normal. As to the etiology, whether a result of a nervous influence or a primary muscular lesion, Auvard makes no attempt to prove. He has found no reported analogous case.

HARE-LIP AND CLEFT PALATE.

Clement Lucas [24] calls attention to a point which he thinks has never been described, viz., that a congenital absence of an upper lateral incisor may foretell the probability of cleft palate and hare-lip in a succeeding generation. Three illustrations are cited,—two in which the absence of the tooth repeated itself in the children, and one in which the absence of the upper incisor in the mother was associated with hare-lip and cleft palate in the infant. He considers the conditions analogous, showing a tendency to an arrest of development in the same direction, and concludes the following deduction to be irrefragable: "that the absence of a lateral upper incisor tooth resulting from an arrest of development is to be regarded as a malformation closely related to hare-lip and cleft palate, and capable of transmitting each or both of these deformities to a succeeding generation."

TREATMENT OF SPINAL CARIES.

Charles F. Stillman [25] describes a point in the construction of spinal support which he says is original with him and new in orthopædic surgery.

[23] Archiv de Tocologie, Aug., 1888, 494.
[24] Trans. Clin. Soc. Lond., 1888, xxi. 64.
[25] N. Y. Med. J., Oct. 27, 1888, 473.

It consists in making continual elastic pressure over the site of disease and deformity. In this are two strips of metal, thin enough to exert a spring action, surmounted by elliptical padded plates which are opposed to the site of disease; these uprights are secured to the pelvic bend, and their angle of adjustment so regulated by a ratchet that when the uprights of the brace are in place a varying amount of pressure may be exerted. The brace is held in position by the ordinary method of anterior support from the chest and abdomen.

When the disease is low in the dorsal or in the lumbar region, the uprights would be too short. They may be attached to the upper instead of the lower portions. In applying the apparatus the child is laid upon a table with the head and shoulders over the edge, and as they descend a partial extension of the spine occurs, and a tendency to obliterate the knuckle.

The tendency of the disease is to curve the body forward, and the force of this treatment is to counteract this tendency.

CHRONIC JOINT DISEASE AND CONSTITUTIONAL TREATMENT.

Gibney,[26] in view of the well-recognized opinion of the tubercular nature of the usual forms of spine, hip, and knee disease, considers the constitutional treatment one of importance, as in tubercular processes elsewhere, as in the lungs, although not to exclusion of local treatment. The constitutional treatment he has had opportunity to see well tried, and its value is not possible to estimate.

CONGENITAL DEFORMITY.

Raven[27] reports a rare case of congenital deformity of giant growth of the thumb and index finger of right hand. The increase in size involved both bone and soft parts. There was also a distortion to the ulnar side of the distal end of the index finger. The muscles of the ball of the thumb are large but soft, but the strength of the two members is diminished, and they are liable to be numb. The muscular development of the right arm is greater than left; otherwise there is no abnormality. No heredity. The patient, a young woman.

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Clinical Department.

EXTERNAL URETHROTOMY FOR TRAUMATIC STRICTURE COMPLICATED WITH EXTENSIVE FALSE PASSAGE.

BY G. W. PERKINS, M.D.,

Division Surgeon, Union Pacific Railway.

A. B. C., American, twenty-four years old, single, and a freight brakeman, was caught, January 5, 1889, between a box-car and an engine, and severely squeezed antero-posteriorly across upper part of left thigh and left lower lumbar region. He was picked up suffering much from pain and shock, and soon had hæmorrhage from the meatus. Some hours afterward was catheterized with rigid metal instrument, which caused him great pain and brought only a little "pure blood." The doctor told him his "bladder had burst."

After this, till January 8th, a soft-rubber catheter was used two or three times in twenty-four hours, withdrawing from a half-pint to one pint of bloody urine each time. January 8th passed, himself, about a pint of nearly normal urine. Had moderate abdominal distention and much pain for first few days, but only slight rise of temperature and pulse.

Symptoms pointed to fracture of pelvis, but at first no positive evidence in the way of crepitus or increased mobility could be detected, either externally or through the rectum. After a few days an induration appeared in perineum, on left side, which remained for several weeks, but finally resolved without opening externally. Two or three weeks after injury, rectal examination showed thickening of left pubic ramus due to callus.

Patient improved slowly but constantly, and was walking about in six or eight weeks.

Symptoms of stricture developed very rapidly, and examination of the urethra about April 1st showed tight stricture six inches from meatus, through which I could get nothing larger than a No. 1 English gum-elastic catheter (about No. 6 French), and this evidently by accident or good luck only, as I could never afterward pass any instrument at all through into the bladder, though I tried certainly a dozen times, over a period of three weeks, with bougies of every kind. Patient passed a stream about size of No. 6 French, which was constantly getting smaller.

I advised a perineal operation, and patient consented. April 24th, etherized with Drs. Carnohan and Armstrong assisting, and put in lithotomy position; large sound passed down to the obstruction and held accurately in median plane of body and the canal opened near its tip by the usual median incision. A loop of silk was passed through each edge of the divided passage, and the anterior angle of the wound held open. Many small openings appeared on sides and at the end, and careful attempts were made, by probing, to pass soft and rigid fine instruments through these into the bladder, and by pressure on the bladder to force out urine to indicate the true opening; could neither get through, nor force out a drop of urine. The patient's bladder could hold but a few ounces, and he had not been able to retain any urine for some hours before operation, as ordered.

After nearly two hours spent in trying to find the passage, decided to postpone attempt to another day, when the parts were free from blood, rather than do a Cock's operation, which would have been very uncertain with bladder nearly empty, and moreover was not imperative to relieve retention from obstruction with extravasation. Drainage-tube, carbolic irrigation, and antiseptic dressing. Rallied well and very little discomfort; at 12 P.M. passed about a half-pint of clear urine, *exactly same as before operation, through meatus*, apparently not a drop through perineum. During 25th passed about a half-pint two or three times, wholly through meatus.

It was evident that, 1, the opening through which the urine came was *anterior* to the incision; 2, that the incision had either been made into a false passage which occupied the normal position of the urethra, or the urine was coming through a false passage which opened into the urethra anterior to the obstruction. Acting on this hint I, with the help of my colleagues, etherized the patient again April 26th, previously putting a ligature on the penis to retain the urine, introduced sound as before, bringing it out through perineal wound, holding its edges open with loops of silk, then cut with scissors, one-fourth inch at a time, along the sound as a guide, through all the tissues from the floor of the passage through the skin, and in direction from behind forwards. Not till I had gone distance of fully an inch and a half anterior to the cul-de-sac did an opening appear on the roof of the passage, into which I managed with great difficulty to pass, apparently through a sinuous track, a No. 5 French, conical, soft, black bougie. This was hugged so tightly that there was no room to pass along it a metallic guide, and I pushed a scalpel along its side, through a dense gristly substance, for one inch before urine flowed, dividing freely enough to pass a finger into the bladder. This passage was not in the middle plane of the body, but distinctly toward the left. It was evidently the true urethra displaced, either through inclusion in the callus of the fracture, which remains as a prominent knob on the pubic ramus, or from cicatricial contraction of extra-urethral tissues. A No. 12 English gum-elastic catheter was tied in through the meatus and kept in first two days; through this all the urine came; when removed, it all came through the perineum for twelve days, but was under perfect control; then gradually more and more came through meatus, and none came through perineum after the thirtieth day. For the first week bladder was irrigated every second day, through catheter, with saturated solution boracic acid, made to return through perineum. From the sixth day a large steel sound (26 to 30 French) was passed every second day. The patient made a perfect recovery, without chill or bad symptom of any kind; he now makes a stream as large as ever; passes, himself, a 26 French sound, and is as well as any one.

The chief interest of the case lies in the additional difficulty of an operation, — sufficiently difficult when uncomplicated — due to the presence of a large, long, false passage occupying the position of the normal urethra, while the true urethra was hardly more than a pin-hole on the wall of a canal large enough to admit 30 French instrument and one and a half inches anterior to the cul-de-sac.

Reports of Societies.

FORTIETH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION,

HELD AT NEWPORT, R. I., JUNE 25TH TO 29TH, 1889.[1]

SECTION IN MEDICINE, MATERIA MEDICA, AND HYGIENE — F. C. SHATTUCK, M.D., CHAIRMAN.

Third Day — Thursday, June 27, 1889.

The first paper of the afternoon was by Dr. V. C. Vaughan, Ann Arbor, Mich., on

THE ETIOLOGY OF TYPHOID FEVER.

In 1880 Prof. C. J. Eberth, of Zurich, in eighteen out of forty-eight cases of typhoid fever, found in sections of the spleen and mesenteric glands a bacillus which was distinguished from the ordinary putrefactive bacilli by the difficulty with which it took up the aniline stains. At the same time Eberth reported that in twenty-four similar examinations of those dead from other diseases he was unable to detect this bacillus, and from these facts thought himself entitled to claim that he had discovered the true germ of typhoid fever. Since that time various experiments had been made by many different observers. The attempts which had been made to induce the disease in the lower animals by inoculation with this germ were numerous and interesting. To sum up the evidence which we had upon this point we might say: (1) the Eberth germ was found invariably in the bodies of those dead from typhoid fever; (2) it had been isolated and grown in pure cultures; (3) all attempts to induce typhoid fever in the lower animals by inoculation with this germ had thus far been without success; (4) experiments showed not only that the germ failed to multiply in the lower animals, but that when introduced by inoculation it soon died.

Dr. Vaughan thought it was now time to add this rule to the four rules of Koch: before any micro-organism could be considered the true and sufficient cause of a given disease it must be shown that the chemical products of that germ were capable of producing the characteristic symptoms and lesions of that disease in an acute form. Did this germ produce any chemical substance which would markedly elevate the temperature, such as mydaleine, or any which induced local inflammatory and necrotic changes in the tissues, such as cadaverine or putrescine? We could not say that the Eberth germ had been demonstrated to be the true and sufficient cause of typhoid fever, judging from the failure of the attempts of Brieger in investigating the nature of typhoid poison. To sum up the results of experiments on this point: (1) the result obtained upon injections of the Eberth germ was found to be in direct proportion to the amount introduced; (2) that the Eberth germ did not multiply in the blood; (3)the same symptoms and lesions were obtained by the introduction of non-pathogenic organisms. To this the bacteriologist might reply that the lower animals did not have typhoid fever. If we could experiment with man the result would be different.

Dr. Vaughan then described his own experiments in attempting to discover a chemical poison excreted by the Eberth germ. He took the fæces of typhoid

patients, from which he obtained these germs. The germs were cultivated. His next step was to obtain a chemical poison which he succeeded in isolating. Crystals of this ptomaine were injected over the abdomen of an animal with resulting fever, severe purging, etc. This ptomaine was found to be most abundant when the culture was kept at about 104° F. Dr. Vaughan had not completed his series of experiments, and therefore had no definite statements to make respecting this alkaloid, to which he had not as yet given a name.

DISCUSSION.

DR. W. H. WELCH, Baltimore, agreed with the conclusions the reader had drawn from the experiments which investigators had made as to the pathogenic qualities of this typhoid bacillus in animals, but he protested against the setting up of a condition as essential for demonstrating the dependence of an infectious disease upon a micro-organism. He thought we were justified in considering that a germ was the cause of a disease when we found that germ invariably present in the disease in situations which would explain the symptoms of the disease, and when we failed to find that germ in any other circumstances than in that disease. If Dr. Vaughan's condition was to be accepted he did not know that there was a single disease which had been proven to be dependent upon a micro-organism. It was uncertain whether all micro-organisms which were pathogenic produced their effects by means of chemical substances which they formed. Doubtless that was true of some, but we were not justified in assuming that it was the sole method. He believed the evidence was conclusive that the typhoid bacillus was the cause of typhoid fever. It was a peculiar organism, which was found invariably, if we examined at the proper stage of the disease, in persons sick or dead from typhoid fever. It was found in the situations where we would expect the organism to be found, and had never been found in other situations, except in infected localities, as in drinking waters, etc. The isolation of the ptomaine in a crystalline form from the stools of typhoid fever patients was a very interesting addition to our knowledge, but it would be necessary to make investigations with other stools not infected with typhoid fever before concluding that the ptomaine had anything to do with the symptoms of typhoid fever.

DR. JAMES TYSON, of Philadelphia, said with regard to the fact that a chemical product must be discovered in the blood or tissues of the animal he would say nothing, but it seemed to him perfectly reasonable to expect that the same organism which had been found in the animal originally affected should also be found in the blood or tissues of the one in which the disease had been reproduced. That was the accepted original idea. It seemed to him that it would be very much more conclusive proof if we found the organism in the individual secondarily affected, that it was the cause of the disease, rather than if we simply found it in the individual primarily affected.

DR. V. C. VAUGHAN, in closing the discussion, said that Dr. Koch, in a conversation with him recently, had expressed the opinion that the Eberth germ had not been demonstrated to be the cause of typhoid fever. Koch had laid down four rules: before we could say that any germ was the cause of a given disease we must (*a*) find it in every case of that disease; (*b*) isolate it from all other material; (*c*) healthy animals of the same species inoculated with that germ must have that disease; (*d*) in the animals inoculated with this disease the germ must grow and reproduce itself. Where these rules had been complied with there could be no possibility of doubt about the germ being the cause of the disease. Dr. Welch asked us to give up every one of these rules save the first, and that we must say that a germ was the cause of a disease when we found it in every case of that disease. Germs depended on the conditions surrounding them. As long as the bacillus of tuberculosis was found in every case of consumption and in no other disease, and no consumption had been produced in healthy animals by it, he claimed he would have had just as much right to say that it was the result of the consumption as they would have to say it was the cause. The proof was not and could not be complete until that germ was isolated from all other material and healthy animals inoculated with it had consumption. Simply because the Eberth germ was found in every case of typhoid fever could not be a proof that it was the cause of typhoid fever. He did not mean to say that every germ produced its deleterious effects by means of its ptomaine, but did mean to say that this had been demonstrated for a number of diseases — for anthrax, tetanus, etc.

DR. JAMES C. WILSON, of Philadelphia, read a paper on

THE PROPHYLAXIS OF TUBERCULOSIS.

The tuberculous diseases, including pulmonary phthisis, we recognized to be specific infectious diseases produced by a tubercle. He wished to consider three questions: 1, was pulmonary consumption hereditary? 2, was it contagious? 3, was it preventable? The solution of these questions was a matter of the gravest consequence to mankind.

1. Was pulmonary consumption hereditary? We knew that bodily conformation, facial peculiarities, etc., were transmitted. The same was true of nervous organization. Diseases of the mind and diathetic diseases were transmitted. A syphilitic mother might bear in succession several children manifesting the effects of syphilis in varying intensity. Tuberculosis, in the large majority of cases, was a local process throughout its whole course, while syphilis and certain other infectious diseases had the element of infection in the blood. The tendency to localization of the process was shown in the lungs, where caseated patches were found post-mortem in patients dead from other diseases than tuberculosis.

The tuberculous diseases did not correspond in their pathology to the acute infectious diseases which were hereditary. That tuberculosis might be produced by infection of the semen or ova there was no evidence; that it might be caused by infection of the placental blood there was little evidence. We no longer spoke of the "tuberculous diathesis," because it did not exist any more than a typhoid diathesis existed. The puny offspring of

weak and diseased parents showed diminished resistance to disease and were especially prone to tuberculosis. That such children contracted infectious diseases did not incline us to call these diseases hereditary. The congenital predisposition to tuberculosis was much less general than to some of the eruptive diseases of childhood.

2. Was pulmonary consumption contagious? Tuberculosis was inoculable by all of the three recognized methods: (*a*) through foods and drink; (*b*) through the air; (*c*) by direct contact. There was no question at present that tuberculosis might be acquired by infected food, as the milk of tuberculous cows. Tuberculous sputum, alone or mixed with food, would give rise to tuberculosis in animals who ate this or to whom it had been administered. Inhalation of particles of dried sputum from tuberculous patients disseminated through the atmosphere might produce the disease. Experiments had shown that tubercle bacilli were present in the dust of rooms occupied by consumptives and absent in the dust of rooms occupied by people not suffering from this disease. The preponderance of pulmonary consumption over other forms of tuberculosis was to be explained by the greater exposure of the air passages to the bacilli. Another proof of the contagious nature of pulmonary consumption was its spread in the form of circumscribed epidemics, which were unnoticed because of the long duration of the disease. The development of the disease in married couples and in those nursing relatives suffering from it, also its great prevalence in cloisters, were in conformity to the view of contagion. The enormous spread of the disease among monkeys confined in zoological gardens and not in the wild state was also in conformity to this view. The tuberculous diseases, therefore, responded in every important particular to the tests by which we determined the contagiousness of other infectious diseases — it was transmitted by inoculation; by direct contact; by means of food and drink ingested, and, finally, by means of the inspired air.

3. Was pulmonary consumption preventable? If pulmonary consumption were hereditary in the ordinary sense any hope of prevention would be chimerical. What measures of prophylaxis could be exerted against the heredity and spread of a disease capable of showing itself at any time of life, or against a disease not only capable of transmission to the third and fourth generation but through a generation or two entirely free from it.

As the importance of heredity as an element in the production of pulmonary consumption diminished, that of contagion asserted itself more strongly. In contagion alone could we find a consistent theory of the spread of the disease and an intelligible explanation of the very facts to account for which the theory of heredity had been strained beyond reason.

The chief avenues of contagion were the digestive and respiratory tracts; and while in theory the spread of tuberculosis was preventable it remained to be seen how far it was in practice. The systematic care of milk, until consumed, to prevent the access of dust which might be infected, would be an important factor. The sputum of consumptives, which, when dried, became a fruitful source of the disease, should be collected in suitable vessels and kept in a moist condition until it was destroyed by fire or disposed of in such manner as not to become a source of danger. Consumptives should be cautioned not to spit upon floors or into handkerchiefs, for an individual who was well on the road to recovery might by self-inoculation, if he did not with the greatest care destroy his sputum, diminish greatly his own chances of recovery. It was important to communicate to the patient at an early date the true nature of his disease in order to secure his co-operation in the prevention of self-inoculation and in the prevention of the spread of the disease.

DISCUSSION.

Dr. C. G. Stockton, Buffalo, N. Y., believed in a tubercular diathesis to a certain extent. Some individuals exhibited a lack of resistance to the disease, and whether a person were resistant or non-resistant would determine whether he would have the disease. There was, in his opinion, something besides the mere contagiousness in this disease that determined its occurrence. There must be, first, contagion, and, second, soil.

Dr. S. E. Solly, Colorado Springs, found tuberculosis of the lungs in all sorts of people in Colorado. He thought there was overwhelming evidence of its contagious character. Those of the lymphatic type, perhaps, were more prone to take the disease.

Dr. H. J. Herrick, Cleveland, doubted the bacterial origin of tuberculosis, and thought it was not proved to be contagious.

Dr. S. S. Cohen, Philadelphia, thought it was still a question which was first in chronology, the organism or the disease. He believed there was a consumptive heredity, not a tuberculous heredity.

Dr. J. C. Wilson, Philadelphia, in closing the discussion, said the fact that there were certain problems in the question as yet not solved did not in his mind stand in the way of acceptance of the general doctrine. Pathologists were nearly unanimous in regard to the etiology of tuberculosis, and we must not be discouraged by clinicians who were unwilling to accept the doctrine. Those who opposed this theory did not offer anything in its place which was as reasonable and coherent as this theory.

Dr. M. R. Crain, Rutland, Vt., read a paper on

TOXIC AGENTS IN THE BLOOD AS A CAUSE OF DISEASES OF THE NERVOUS SYSTEM.

Dr. Crain called attention to multiple neuritis and the various toxic agents in the blood which might cause it, as arsenic, lead, alcohol, etc. Other blood-states productive of multiple neuritis were gout, rheumatism, septicæmia, and leprosy. Certain diseases of the nervous system, as locomotor ataxia, were cited in which we found lesions in various parts of the body, but these lesions were preceded, many of them, by toxic agents in the blood. Neurasthenia might be caused by overeating in case the person did but little and ate a great deal. Imperfectly digested food was introduced into the system, and hence the cause was a toxic agent in the blood. Many headaches were toxic. In every case of nervous disease it was necessary not only to locate the disease, and to say whether it was organic, but to examine and see whether any toxic agent in the blood was producing the trouble.

DR. W. L. SCHENCK, Kansas, presented

SOME THOUGHTS ON THE ETIOLOGY, PATHOLOGY, AND THERAPEUTICS OF PHTHISIS PULMONALIS.

Dr. Schenck considered at length the disease from the standpoints of etiology and pathology, and in conclusion announced it as a fundamental principle that without lowered vitality, general or local, there was no tuberculosis; hence the treatment of phthisis must be directed to the restoration and building up of degraded cells and tissues. The absence of fat tended to tuberculosis; its presence tended to prevent or cure tuberculosis. Alcohol had been recommended as *the* hydrocarbon in the treatment of phthisis, but the heat-producing power of alcohol compared with cod liver oil was as three to four in favor of the latter. In our treatment we must strive to improve digestion and assimilation, and we could not improve digestion without removing that which was useless. Alcohol "pickled" the tissues and tended to the retention of that which was useless.

DR. SOLOMON SOLIS-COHEN, Philadelphia, read a paper on

FOOD IN THE TREATMENT OF PULMONARY CONSUMPTION.

Though the paper is therapeutic, yet as therapeusis must be founded on sound pathology, it is necessary to state that the morbid physiology of the disease, and not its bacteriology, is considered the fundamental indication. In deference to prevailing views tuberculosis may for the present be granted to be the history of the growth, life, and activity of a bacillus. But for rational treatment we must revert to the views of Niemeyer, who said that the danger of phthisis is tuberculosis; or to those of Rush, who declared that tubercle and other anatomical lesions were "the effect not the cause of pulmonary consumption;" and recognize the disease we have to combat, not in epiphenomena of possible microbic origin, but in the consumption, the aberration of nutrition, which precedes the entrance of the microbe. Consumption is a disease of nutrition, whose exact mechanism is as yet unknown, though the results of prolonged observation justify us in considering heredity, unhygienic surroundings, and, in general, those influences called "depressing," as among its remote or proximate causes; the pulmonary form being further dependent upon errors in respiration, whether of the substances respired or of the performance of the act.

Thus we dismiss, as futile, microbicidal treatment; and recognize ptomaines of bacillary origin only as giving rise to intercurrent symptoms which may call for antidotal or symptomatic treatment. Fixing attention upon the malnutrition, which is not a mere "predisposition" to succumb to a bacillus, but the essence of the whole morbid process, we combat it by direct measures, hygienic and medicinal; the latter secondary, the former all-important. Chief among hygienic measures is food. Food consists not alone of meat and drink, but also of air. Full respiratory diet is necessary to the utilization of alimentary diet. As in diabetes, so in phthisis, there is imperfect metabolism of carbohydrates. Experience shows a nitrogenous dietary to be best. Debove has shown that consumptives can assimilate a quantity of food far in excess of the needs of the healthy organism. This excessive quantity should be supplied; though resort to the stomach-tube, as in Debove's experiments, can be reserved for special cases.

Meat, principally beef, with milk, fish, eggs, leguminous vegetables, and greens should form the bulk of the dietary, with the addition of fat in large quantities, in the form of cream, butter, oil dressing for salads, or, if necessary, cod liver oil or oleaginous inunctions. Alcohol is a food in consumption. It should be combined with malt, milk, glycerine, or cod liver oil. Not more than three, at most four, hours, except during sleep, should be allowed to elapse without taking food. Milk punch on going to bed, and a glass of wine or spirits with liquid peptonoids in case of waking during the night, are strongly urged. Hot water before meals, lavage if necessary, to prepare the alimentary tract for the digestion and absorption of increased food, and the free drinking of water to wash out waste products, are essential to success. Predigested foods may be employed with great benefit, especially peptonized milk and beef peptonoids. In case gavage is resorted to, they should be used almost exclusively. Gavage is best preceded by lavage with an alkaline solution and chloroform water. Proper alimentary diet being secured through over feeding, and the digestive tract and its adnexa being kept in good condition, proper respiratory diet must be supplied. Open-air life, exercise on horseback, or bicycle, voluntary respiratory gymnastics, may suffice when the patient is still strong enough. In the majority of cases there must be some artificial aid. The inhalation of compressed air, with or without expiration into rarefied air, is the best means. Apparatus should be simple and cheap, so that the patient can use it at home. The principles laid down by Waldenburg are the correct ones. Cohen's apparatus consists of a bellows and a small gasometer modelled upon Waldenburg's. Its advantages are cheapness, simplicity, and small size, fitting it for home use. After patients are sufficiently advanced towards recovery, the pneumatic resistance valves of the author, a still more convenient and very cheap pocket-apparatus (costing about $5) may be used. It may be used in the first instance with strong patients. It is also useful as a prophylactic measure with ill-developed children. It gives the effects of breathing against pressure, *i.e.*, into compressed air, or out of rarefied air.

The effects of pneumatic measures are to increase the volume of respired air, open up unused air-cells, facilitate expulsion of pathological products, increase gaseous exchange, facilitate absorption of oxygen by the hæmoglobin, while at the same time the volume of blood and the activity of circulation in the lungs is increased, bringing more corpuscles into contact with the increased volume of oxygen. Penetration of blood into the tissues, tissue respiration, and production of lymph are also increased. Thus local and general nutrition are powerfully stimulated, and an improved respiratory habit and increased respiratory and circulatory power are gained. The products of digestion are properly oxidized and utilized, immature tissue is destroyed and expelled. The promotion of sleep is one of the most marked effects.

The physician, by altering his patients' environ-

ment in the manner described, puts them into a condition where natural powers complete the cure, and bacilli need not be feared. Illustrative cases were cited, and the conclusion reached that the proper treatment of consumption is not microbicide, but nutrition.

Dr. J. A. Cutter, New York, read a paper on

TROPHOPATHY IN FATTY AND FIBROID DEGENERATIONS, WITH PRESENTATION OF CASES OF CURE.

SECTION OF OBSTETRICS AND GYNECOLOGY — W. H. WATHEN, M.D., CHAIRMAN.

Second Day — June 26.

Dr. Joseph Taber Johnson, of Washington, D. C., read a paper on

TETANUS FOLLOWING OVARIOTOMY.

So rare a complication of ovariotomy and the recent interest in the transmissibility of tetanus were his reasons for bringing this case before the section. The history of the case was, in brief, as follows: A solid growth, sarcoma of the ovary, the size of a child's head, was removed. The patient, who was aged sixty-one, recovered rapidly and without complication. On the morning of the thirteenth day she developed tetanus and died on the third day of the disease and fifteenth day after the operation. She exhibited numerous muscular spasms; mind clear, jaws locked. The convulsions were especially active in the neck and back, and during their presence the pulse was notably weaker. The patient died of what appeared to be heart-failure. No other patient in his hospital was affected with this disease, and it was the only case which had occurred in it during the eighteen months it has been in operation. It seemed to him that there was probably no outside influences. His horses were healthy and he does not drive them himself, so thought there could be no opportunity in this way. In all cases of inoculation the disease is contracted and the patient dies in a very few days, generally not more than three. His patient got along well till the thirteenth day. The author's case, the case of Homans, of Boston, and that of Richelot, of Paris, are the only cases of this complication he could find. The room in which the author had operated was thoroughly disinfected. The equine origin of this disease has been thoroughly discussed by Verneuil, of Paris, and much interest brought out by his investigations. Tait thinks tetanus will continue to be a complication of ovariotomy, and one which we can hardly explain or eliminate. The practical point of the paper was to draw attention to the infectious nature of this disease. He advised that care be taken as to infection, especially with horses.

Dr. A. Reeves Jackson, of Chicago, gave details of sixty-seven cases, more or less complete, in his paper on

INJURIES TO THE BLADDER DURING LAPAROTOMY.

Dr. A. Van Der Veer, of Albany, New York, read a paper on

CONCEALED PREGNANCY, ITS RELATION TO ABDOMINAL SURGERY.

Dr. Theophilus Parvin, of Philadelphia, read a paper on

CASUISTRY IN OBSTETRICS.

Zoroaster, long before Cicero, gave us the maxim which contained the teachings of Cicero, "In doubt as to whether an action is right or wrong, abstain." The order of Jesuits has given especial attention to this subject. Zoroaster's rule is excellent, but will not always do in obstetrics, because we cannot in all cases abstain; we must do something. Casuistry sometimes perverts, as in the case of the wife who excused her adultery by saying that she gave her body to her lover, but not her lips with which she had made her vows of fidelity. The treatment of ectopic pregnancy in its earlier stages is one of the pressing questions of the hour. The progress of science brings up new questions in casuistry in obstetrics. The ophthalmologist finds albuminuric retinitis in the pregnant woman, and tells her physician that the continuation of her pregnancy is at the peril of her vision, and possibly of her life. The speaker thought that woman, when pregnant, should be treated as well as other animals in a similar condition, and continence for months or years is possible and not injurious. Notwithstanding the many influences brought to bear on the physician to prevent conception he takes great responsibility who attempts to thwart nature's law — *lex, lex dura, sed lex.* The instances for imparting this information are exceedingly rare, and the nicest casuistry is necessary. This information, if given, will pass to those who have no cause for the prevention of conception, and it will become general, and a strong defence to female virtue is taken away. Craniotomy he considered one of the most painful, serious, and difficult questions in casuistry in obstetrics. He reported several cases where the operation had been performed and the child had to be killed after delivery, or partial delivery. Those who advise craniotomy on the living fœtus cannot decide on the measurements of the conjugate which demand it. The field of craniotomy is being steadily restricted, but that it will entirely disappear except for hydrocephalus, and according to Tait in two years, few are sanguine enough to believe. Amputation of the pregnant uterus is destined to occupy a more prominent position than it has yet done. It is yet to be decided whether hysterectomy or hysterotomy will save the larger number of patients.

Dr. Wm. H. Parrish, of Philadelphia, read a paper on

PELVIC ABSCESS IN THE FEMALE.

He divided this into three subdivisions, areolar, intra-tubal, and ovarian. Chronic pelvic cellulitis occurs only as a sequel to pelvic abscess. We usually have the history of gonorrhœa in the husband, dyspaneuria in the woman. He had never met with an areolar abscess dependent upon extension of gonorrhœal inflammation from the vagina or uterus directly through the walls of these organs into the pelvic areolar tissue. Chronic cellulitis, unless becoming such by complications, is a gynæcological myth, and has an existence only as an *ignis fatuus* in the brains of former members of the profession. Abdominal surgery has demonstrated in numerous instances that chronic cellulitis has no independent existence. That intra-tubal abscess occurs with very much greater frequency than areolar abscess

must appear to every one familiar with abdominal surgery. The successful treatment of pelvic abscess often demands an exercise of the most deliberate judgment and the highest operative skill. The doctor urged the necessity of operating early in every variety of curable pelvic abscess. The besetting sin of the family practitioner and the timid and doubting operator is to wait. In this delay the dangers become cumulative and the surgeon is asked to operate when the case has become hopeless. If the patient dies the practitioner is discouraged, and in his next case he waits longer still in the hope that pus may not form or that it may escape spontaneously. He thinks that in some of his cases suppuration has taken place, resolution followed, and so justifies his delay. Early surgical interference with the knife should be the rule in all varieties of pelvic cellulitis.

(To be continued.)

AMERICAN CLIMATOLOGICAL ASSOCIATION.

SIXTH ANNUAL MEETING, BOSTON.

Second Day — Tuesday, June 25, 1889.[1]

DR. VINCENT Y. BOWDITCH, President, in the chair.

DR. JOHN C. MUNROE, of Boston, read a

REPORT OF TWENTY-FOUR CASES OF ACUTE MILIARY TUBERCULOSIS.

The following analysis of twenty-four cases of acute miliary tuberculosis of the lungs has been made in order to furnish if possible some clues towards the detection of the disease that not infrequently bewilders the most careful practitioner. The cases have been taken from the records of the Boston City Hospital, and it is to the courtesy of the members of the staff of that institution that I owe the pleasure of presenting this brief consideration. For the use of some valuable private notes made on a number of the patients by Dr. Samuel Delano I feel greatly indebted also. All the cases were fatal, occurring within the last five years, and only those in which a post-mortem examination was made have been chosen. The number is too small to attempt to draw percentage conclusions, and some factors generally considered of importance have been passed over because of insufficient data. Fourteen patients were male, with an average age of thirty-eight years, that of the females, not including one child two and one-half years old, being only thirty-two years. The oldest, a man, was sixty-five years of age. Eight were between the ages of forty and sixty years. Over a half were born on or near our eastern shore; two were negroes. The majority were ill in February, March, and April. Their occupations were of various kinds, and apparently had no causative influence. Only three gave a phthisical family history. In twelve it was not phthisical, while in nine no history could be obtained. Three-fourths of all the patients had always been well up to the time of the present illness, and, although in thirteen cases the autopsy revealed a chronic tuberculosis in addition to the acute miliary process, yet of this group only a single patient had given a history of having suffered from phthisis. In fact, the remainder had always been looked upon as healthy. Even though there was a history of a cough for one or more months, in two-thirds of the cases it was noted as being slight with muco-purulent expectoration, and had excited no alarm except in one instance when several attacks of profuse hæmoptysis had occurred. A severe cough was recorded in two cases, but in each it had begun less than a month before admission to the hospital. Among the exciting causes might be mentioned the following: overwork and exposure in a damp cellar, several weeks of hard drinking with but little food, partial asphyxiation, measles, scarlatina, whooping cough with measles and vaccination, each in one case. About one-third of the cases gave a clear history of a marked chill ushering in the disease. A few more complained of feverishness and malaise, while headache was pronounced in a few others. Loss of flesh, strength, and appetite, wherever noted, came on rapidly and were very marked. Likewise night-sweats were always profuse.

The post-mortem examination in every case showed an acute miliary tuberculosis of the lungs, and so far as could be judged it was the important, or one of the important, pathological conditions. Thirteen showed in addition some degree of chronic tuberculous process going on, often with cavity formation.

In thirteen cases, divided almost equally between the acute and the acute chronic, there was a tuberculosis of the meninges, causing so marked symptoms during life that the diagnosis was strongly influenced.

DISCUSSION.

DR. A. L. LOOMIS: This is a subject which has interested me for a very long time. It has interested me mainly in diagnosis. I have in mind the case of a young man, twenty-six years of age, who came to New York from Chicago, from Dr. Jewett. I made the diagnosis of pericarditis. The signs were very distinct, without fever. There was in that case a temperature at no time over 100°. There was rapid emaciation. He died about two or three weeks after he came to New York, probably about two months after the first symptom. At the autopsy we found tuberculosis. There were miliary tubercles in the lungs. There were miliary tubercles found in every organ that was examined. There is one point in the diagnosis which seems to me to be a very important one, and that is the rapid emaciation which takes place in all of these cases that I have seen. It is not necessary for me to say here to you gentlemen who are so familiar with this class of cases, that the diagnosis in miliary tuberculosis is very often not made until the post-mortem. Not infrequently persons go through Bellevue Hospital, and are treated as cases of fever, when at the post-mortem are found traces of miliary tuberculosis.

DR. J. B. WALKER: In the report of a case of a mother nursing her first infant she developed a miliary tuberculosis which ran its course very irregularly. There was a rapid development of pulmonary symptoms during the early portion of the attack. During the cardiac development the pulmonary activities lessened. With the cessation of the cardiac symptoms there was marked infil-

[1] Continued from vol. CXX., p. 645.

tration. The curious point in the history was the development of the pericardial symptoms and their disappearance entirely after the gradual development of the disease towards death. At the time the cardiac symptoms disappeared her temperature returned to normal. It had been gradually going down, and towards the close it was the ordinary temperature of miliary tuberculosis.

DR. FREDERICK I. KNIGHT, of Boston, read a paper on

THE CLIMATIC TREATMENT OF BRONCHIAL ASTHMA.

If one seeks information on the selection of a suitable climate for an asthmatic patient he will soon realize that no successful attempt has been made to establish indications for preference of one climate over another for any given case of asthma, that changes of climate have been made usually in an experimental way, and have been often attended with aggravation of the symptoms.

The chief cause of this has been the mistake which has been made in trying to reduce all cases of asthma to one class, assuming that the ultimate cause and mode of development of this symptom was the same in all cases. This has led to the origin and promulgation of different theories which have been in turn advocated and abandoned.

The case of error of the medical man is greater than that of the blind man in Tolstoi's fable, because, while he may soon learn to interrogate all parts of the animal tendered to him for examination, he will also soon be made aware that there is a great variety of animals. The specialist is familiar with the kind of asthma occurring in his own field of practice. It will appear that in climatic as in medical treatment we must make an examination to ascertain the condition of the patient as far as it is possible to diagnosticate this, and not treat the name of the disease. Dr. Knight stated that in an attack of asthma there were three factors, a predisposing, a determining, and an exciting cause, and the removal or modification of any one factor might prevent the paroxysm. The first and last factors were pretty generally admitted, the second some authors put in the nose, some in the lung, &c., but it had better be stated as a morbid condition *somewhere* in the respiratory tract, initiation of which caused reflex phenomena in the bronchial tubes. There is no climate which is good for all cases of asthma, and we must carefully consider, when the patient presents himself for treatment, the nature of the factors in his case, which of them we intend to modify, and how far change of climate may be able to aid us in this.

DR. G. M. GARLAND, of Boston, read a paper on

THE PATHOLOGY OF HÆMOPTYSIS FROM CHRONIC PULMONARY DISEASE.

For the convenience of our discussion to-day we will assume that we are considering only cases of true pulmonary hæmorrhage, wherein all extraneous sources of blood-supply, such as aortic aneurism, cardiac rupture, etc., have been ruled out by the symptoms of the case. We can then roughly divide pulmonary hæmorrhages into two groups: (*a*) cases which present physical signs of pulmonary disease; (*b*) cases in which no physical signs of changes of lung structure can be found.

Our knowledge of the pathological causes of hæmorrhage in the first group has been thoroughly digested by Virchow, Thompson, and others. We know that hæmorrhages proper in this group come from deficiencies in the pulmonary system of vessels, while bronchial hæmorrhage, or leakage from the arterial supply of the bronchial tubes, is slight in quantity and simply streaks the accompanying secretions of these tubes. No inference can be drawn from the color of the blood as to its source, because the oxygenation of the pulmonary blood is so rapid that it is expectorated red. Traumatic injuries of the vessels, and aneurism and diapedesis are familiar causes of hæmorrhage in tuberculosis. According to Virchow, however, the greater number of hæmorrhages in phthisis comes from ulceration of the vessels. In the second group we find no clinical evidence of changes in the pulmonary parenchyma. We may indeed locate the presence of blood in the bronchial tubes, but this does not necessarily determine the seat of the leakage, because the blood is rapidly drawn off into byways and side issues quite remote from its point of escape. The presence of hæmophilia, scurvy, and habits of excessive drinking would lead one to consider alterations in the composition of the blood itself as a possible cause of hæmorrhage. Some evident point of departure for an embolus, the possibility of thrombosis, etc., are matters for consideration in diagnosis.

Pulmonary congestion is not of itself alone a prolific cause of hæmorrhage. In whooping cough and congestive bronchitis the amount of blood is rarely copious and is the result of violent coughing. One writer has observed that hæmorrhages are rare in acute maladies of the respiratory apparatus, and in pulmonary congestion which is not symptomatic of a cardiac affection are rarely accompanied by an expectoration of blood.

This brings us to the consideration of the heart as a factor of pulmonary hæmorrhage. Fernet says: "After tuberculosis, heart disease exerts the greatest influence in producing hæmoptysis, and mitral troubles stand pre-eminent in the causative list." Here also the element of exertion comes in, upon which Thompson lays so great stress. He says: "The influence of exertion in the etiology of blood-spitting has not received so much attention as it deserves from the amounts and frequency of the event, for cases occur in which hæmoptysis has followed some unusual exertion, in which no causative proof of pulmonary disease can be shown to exist." Prolonged exertion in walking and running leads to excessive hyperæmia of the lungs consequent upon the rapid emptying of the veins into the right side of the heart, and either the lungs give way under a condition of general congestion with extravasation of blood, or local troubles of a similar kind occur; or, on the other hand, the heart may become overstrained and give way in a condition of general dilatation.

Brown-Séquard has produced hæmorrhage in the lungs by lesion of the pons. Strauss speaks of the ecchymoses tabetiques upon the extremities, following severe pain. Faisans and Kellar describe subcutaneous hæmorrhages resulting from great moral commotions in neuropathic persons; vicarious menstrual hæmorrhages are a common experience, and

it is interesting in this connection to note that out of two hundred cases collected by Puech, hæmoptysis figures twenty-four times, *i.e.*, in 12½%. Great weight is laid by Virchow upon a certain condition of the arteries themselves, which he called *wallung* [orgasm]. And he evidently believed this wallung to be under the direct control of the nerves. Illustrations of this condition are observed in the pulsatio epigastrica of hypochondriacs; in the heat-flashes of women during the climacteric; in the pulsations of the head in cephalalgia; in the throbbing of the temporal artery with the toothache. Moreover, this sensation of wallung is also felt in the chest and sometimes followed by a hæmorrhage which removes the disagreeable sensation, according to the evidence of patients.

In conclusion, therefore, I would say that I believe that a more careful discrimination of our cases of pulmonary hæmorrhage would reveal some of neurotic origin.

(To be concluded.)

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

T. F. SHERMAN, M.D., SECRETARY.

REGULAR meeting, Monday, March 4th, at the Medical Library, 19 Boylston place. DR. H. W. WILLIAMS in the chair.

DR. F. W. PAGE read a paper on

A BUSSEY BRIDGE ACCIDENT CASE: A REVIEW AND A CRITICISM.[1]

DR. NICHOLS said the society was under obligation to Dr. Page for the very careful manner with which the paper was drawn up. It is often very difficult for the expert who may be summoned for a corporation or for the defence to know exactly what course to pursue. If he states at the outset that he believes the plaintiff to be a malingerer he is apt to prejudice the rest of the testimony which he may have to present; the physician too often shows a lack of moral courage in not stating to the jury exactly what he believes. A different course is pursued in Germany: there, if the expert believes the plaintiff to be an impostor, he says so in so many words; here, the expert is much more cautious, and says, "the plaintiff in all probability is not so badly injured as he believes himself to be." If a different course was pursued here, Dr. Nichols believed that many of the excessive verdicts would be avoided. With regard to the symptom of local anæsthesia, he thought too much stress was apt to be placed on the effect of sticking a pin into the flesh, as many persons can stand the thrust of a pin without showing any signs of being hurt; he is accustomed to use a needle, as in electrolysis, adding a few cells at a time till pain is felt.

DR. PRINCE said that the paper of Dr. Page was a model of what such papers should be; many similar papers are so lacking in detail and in the methods employed in making the examinations that the report is of little value except to record the opinions of the writer.

Anæsthesia is a very easy thing to simulate and a very difficult thing to detect; the method recommended by Dr. Nichols in the use of electrolysis to detect anæsthesia, he should think would be of great value, and he should use it hereafter; if a sufficient number of cells were used it would be impossible to simulate anæsthesia.

DR. J. ORNE GREEN read a paper on

CLINICAL OBSERVATIONS IN AURAL PRACTICE.[2]

[1] Publication deferred.

[2] See page 53 of this Journal.

Recent Literature.

The Bacteria in Asiatic Cholera. By E. KLEIN, M.D., F.R.S., Lecturer on General Anatomy and Physiology in the Medical School of St. Bartholomew's Hospital, Professor of Bacteriology at the College of State Medicine, London. London: Macmillan & Co. 1889.

This volume of one hundred and eighty pages is reprinted from the pages of the *Practitioner*, where the articles originally appeared between October, 1886, and May, 1887. The more recent contributions of Koch to the knowledge of the comma bacilli have been added to the text. The author holds to the opinion, in which he coincides with Pettenkofer, the English cholera commissioner, and others, that this comma bacillus is not the proved cause of cholera; though he agrees with Koch that the bacilli are constantly present in the cholera intestine and discharges during the early stages of the disease. The book is well illustrated.

Transactions of the Gynæcological Society of Boston. New Series, Vol. I. Cupples & Hurd. 1889.

The present volume of Transactions is the first permanent record of the work of the Gynæcological Society of Boston since 1872. That the society has not been idle in the meantime these admirable papers clearly show, and the recent date of many of them is an indication of renewed activity.

The twenty-eight communications which compose this volume naturally vary in interest and value. Of especial merit are The Ethics of Abortion, by J. E. Kelly; The Dress of Women, by Helen L. Betts; The Obstetric Forceps, by S. N. Nelson; The Perineum: its Anatomy, Physiology, and Methods of Restoration after Injury, by H. O. Marcy; and The Diagnosis and Treatment of Cancer of the Breast, by J. Collins Warren. Many of the others are eminently practical and suggestive, and taken as a whole they form a valuable collection for study and reference. They have been issued in an exceedingly neat and attractive form by the publishers.

Handbook of Physiology. By W. MORRANT BAKER, F.R.C.S., and V. D. HARRIS, M.D. Lond. Twelfth edition, rearranged, revised, and rewritten, and with five hundred illustrations. New York: William Wood & Co. 1889. pp. xi, 784.

This new edition of Kirke's familiar handbook will probably and properly find favor with those students who seek a book of moderate size and adapted to a similar capacity of the reader. The book has been improved by a considerable rearrangement of the material and by the addition of several useful plates, diagrams, and tables. The revision is in some particulars (*e.g.*, glycogen, urea production, peptones) not quite on a level with the best and more recent investigations.

THE BOSTON
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THURSDAY, JULY 18, 1889.

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TWENTY-FIFTH ANNUAL REPORT OF THE BOSTON CITY HOSPITAL.

THIS report presents the usual statistics setting forth the work done for the "sick poor" of the city of Boston during the year 1888. From these we learn that 6227 patients were treated in the hospital during the year, of whom 772 died, giving a mortality rate of 12.3 per cent.; but 314 died within 48 hours after admission, and if these are deducted the mortality rate would be 7.3 per cent. There were also 176 deaths from diphtheria, and as these were almost hopeless cases they ought also to be deducted in estimating the rate of mortality. The mortality at an institution where no one is too sick or too wretched for admission, and to which many cases are sent which have proved too serious for other hospitals and for outside medical relief, is necessarily high, and last year at this hospital, owing to an unusual prevalence of diphtheria and other causes, has been higher than before.

Of those admitted 3253 were medical, 2543 surgical, and 79 ophthalmic patients; 3665 were males, and 2210 females; 1721 were of Irish nativity, 1354 were born in Boston, 640 in the British Provinces, 362 in Massachusetts towns, 297 in England, 264 in Maine, 146 in Germany, and the rest in varying numbers in other parts of the United States, and in all parts of the world. Italy furnished 96, Scotland 90, Sweden 82, Russia 64, etc., etc. The largest number at any time in the hospital was 441, the smallest 320; the daily average number of patients was 378. The average time of remaining in the hospital was 22.21 days. The average net cost per patient per week for the year 1888 was $7.91 against $7.41 for the year 1887, $7.52 for the year 1886, and $8.39 for the year 1885.

The total expenditure during the year was $203,206, of which $17,045 was for additions, alterations, and renovations. The income from paying patients was $27,946.

Of diphtheria, 382 cases were treated during the year, with a mortality of 48 per cent. A large number of these were very young children suffering with septic symptoms or in the last stages of diphtheritic laryngitis, of Italian, Portuguese, or other foreign parentage, and were hopeless from the time of admission; there were 61 tracheotomies, of which 54 ended fatally, 107 intubations, with 78 deaths, and 17 cases in which intubation and tracheotomy were both performed, all of whom died.

In the out-patient department 13,383 patients were treated during the year, of which 5910 were surgical, 2991 medical, 1600 ophthalmic patients, and the rest came to the various special clinics for the skin, the ear, the throat, the nervous system, and for diseases of women.

The report justly condemns, as unquestionably bad, the policy under which contagious diseases, such as scarlet fever, measles, diphtheria, and typhus fever, are received in buildings in somewhat close relations with other wards of a general hospital. A special hospital for such cases, under charge of the Board of Health, with requisite authority for control, would relieve the General Hospital of a class of cases it ought not to receive. Such a hospital will involve increased expenditure, and will have to await a more enlightened public conscience and a less depleted city treasury.

An electric light plant is suggested as an improvement "not only demanded by the times, but especially needed in wards occupied by large numbers of sick people. The superintendent states that: "As an ordinary gas-burner consumes as much oxygen as five adults, so in some of the wards the oxygen consumed by the gas-lights is equivalent to twice the amount used by the patients. This means that three times as much oxygen is consumed when the wards are lighted as during the day when no gas is burning. Recent analyses of the air in the wards prove that the amount of carbonic acid gas in the wards during the day-time is constantly low (3.6 per cent.), and with little variation. This percentage rises rapidly after dark, and has been found as high as 11.4 per cent., which is near the danger-line, and practically means crowd-poisoning."

The training school for nurses in its eleventh year graduated twenty-one pupils; as proof of graduation a badge has been established which graduates may be required to exhibit.

This hospital is undoubtedly among the very best municipal hospitals in the world, but the demands upon its resources are constantly growing and its work is often much hampered by insufficient appropriations; this being the case, it seems idle to hope for the establishment of a special hospital

or hospitals for contagious diseases, at least in the immediate future.

TREATMENT OF NEPHRITIC COLIC AND GOUT BY THE GARDEN BEAN (*Vicia faba*).

A WRITER in the *Bulletin Général de Thérapeutique* (March 15th, 1889) extols the usage in nephritic colic, renal lithiasis, and gout of an infusion of the flowers of the garden bean. He speaks of this having been a standard remedy from time immemorial on the coasts of Calabria and in the south of Sicily, where the waters are hard, and where renal lithiasis is very common; the natives are in the habit of resorting to bean-flower tea when afflicted with calculous affections. The writer in the therapeutic journal alludes to his own experience in the use of this remedy. For more than thirty years he had been subject to attacks of renal colic; a strong decoction of bean flowers (which he took pains always to gather in their season) always rendered him signal service. He also bears testimony to the benefits which persons afflicted with gout have derived from this infusion of bean flowers. An infusion is made by steeping a drachm and a half of the flowers in a teacupful of water. This entire quantity is drank during the day, and it is recommended to continue this treatment for several months. A vicar of the suburbs of Dijon, an Italian count, is quoted as having said: "If this remedy does not cure gout, it certainly enables one to live with the gout without suffering." A common way of using this remedy in Calabria is to steep three drachms of the flowers of the bean in a quart of water and reduce this quantity one-half by boiling. To be freely drank by the patient.

The above indicates a use of the garden bean which will certainly be new to most persons in this country.

MEDICAL NOTES.

— The recent legislature of Texas voted $50,000 for the establishment at Galveston of a medical branch of the State university.

— Dr. Kiernan says he will not resign his position of superintendent of the Insane Asylum, as requested by the Cook County Commissioners, and that if the board wishes to get rid of him it will have to pass a resolution discharging him.

— The trustees of Roper Hospital, Charleston, S. C., have decided to repair the old building on Queen street, which was so badly damaged by the earthquake of 1886. The contract has been awarded, but none of the papers have as yet been signed. Just what use the building will be devoted to has not yet been determined.

— Dr. Henry M. Hurd, now superintendent of the State Hospital for the Insane at Pontiac, Mich., in the neighborhood of Detroit, has accepted the office of superintendent of the new Johns Hopkins Hospital in Baltimore. He is a man of about forty-five years of age, whose life has been devoted to hospital service, and he has acquired distinction as an administrator and also as a writer. He graduated in arts and in medicine at the University of Michigan, and has twice been called by his alma mater to a professorship of medicine.

— The addition which is being made to the Maine General Hospital will make the building about double its present size. The present structure consists of large square building with a long wing. The new building will consist, first, of a building 40x40, and of the same height as the present one. These will be connected by a corridor 16 feet wide. Added to this will be a building 38 feet long and 33 feet wide, which will be used for the wards. Across the end of this, at right angles, will be the third part, which will contain the apartments of the house doctors, and will be 60x25. The total length of the new structure will be 140 feet, with a width of 33 feet.

— The Kentucky Court of Appeals has made an interesting contribution to the literature of excise law.

A local option statute of Kentucky prohibits the sale of liquor as a beverage, but allows druggists to sell it for medicinal purposes on a prescription written and signed by a "regularly practising physician." The Act then provides that —

"No physician shall make or sign any such prescription except the person for whom it is prescribed is actually sick and such liquor is absolutely required as a medicine."

The Kentucky Court of Appeals has rendered a decision holding that if this provision is to be construed literally to mean that the physician is liable to punishment if the liquor was not "absolutely required" by the patient, then the statute is unconstitutional. "To make him a warrantor," the opinion says, "that the particular drug he prescribes is absolutely necessary for the disease, and for a breach, the result of an honest mistake, to mulct him in a fine, would drive him from the field."

But it is not necessary, the court goes on to say, to give the Act so rigid a construction. All it means is that if the person is actually sick, and the physician, after making a reasonably full and fair investigation of the disease, believes in good faith that his patient needs the whiskey as a medicinal remedy, and prescribes it, he is not guilty of violating said section.

— Judge Prendergast, of Illinois, has rendered a full and very damaging decision as to the condition of the Cook County Insane Asylum. The case came up on the petition of Dora Willard, through her sister, for release from the asylum, which is granted on the ground that the asylum is not a fit place for her detention. After enumerating the abuses found to exist the judge says: —

"The foregoing is but an incomplete reference to the facts adduced in this investigation. To a great extent workmen and attendants have been appointed on political grounds, and the constant care of these persons is to retain their places and cultivate the friendship of the powers that be instead of studying to increase their efficiency and skill as attendants upon the insane.

"Carried on under the guise of benevolence, this institution is in fact a monument of inhuman neglect. The county board claims to be utterly unable, under existing legislation and in view of the financial condition of the county, to do anything substantial toward remedying this condition of things. The fact is that there is no insane hospital or asylum in Cook County. There is a place of imprisonment that we call an asylum, and to this place we have committed about one thousand unfortunate insane, as to a tomb for the living, little less dreadful than a tomb for the dead in its worst state."

— From an entertaining book called "The Story of Patsy," by Kate Douglass Wiggin, which illustrates the attempt to apply modern educational methods to the very poor children of our large cities, we copy the following letter from "a mental heeler" in excuse for the repeated tardiness of her son. It is too life-like to have been invented: —

Miss Kate: Dear Madam: You complain of Lafayette's never getting to school till 11 o'clock. It is not my affare, as Hildegarde has *full charge* of him and I *never* interfear, but I would sujjest that if you *beleeve* in him he will do better. Your unbeleef sapps his *will powers*. You have only reprooved him for being late. Why not incurrage him say by *paying* him 5 cents a morning for a wile to get among his little maits on the stroak of nine? "Declare for good and good will work for you," is one of our sayings. I have not time to treet Lafayette myself, my business being so engrossing, but if you would take a few minutes each night and *deny Fear along the 5 avanues* you could heel him. Say *there is no Time in the infinit* over and over before you go to sleep. This will lift fear off of Lafayette, fear of being late and he will get there in time. Yours, for good,

Mrs. Powers, Mental Heeler.

Miscellany.

ENDEMIC CANCER.

The Paris correspondent of the *Therapeutic Gazette* gives some interesting facts collected by Dr Arnaudet, of Cormeilles, in Normandy, bearing upon the question of the contagiousness of cancer, which tend to prove that the disease may, under some circumstances, be communicated from one patient to another. In the little village of Cormeilles, with a population of four hundred in 1881, no less than eleven deaths from cancer, out of a total of seventy-four, occurred during the eight years elapsing from 1880 to 1887. So large a proportion for a comparatively infrequent affection is almost equivalent to an epidemic, and was all the more remarkable that the cancers were located in the stomach, neck, or mesentery, and carried off ten male patients against one female. As compared with Paris, the whole mortality from this cause was not only considerably larger, but the proportion of sexes entirely different, the usual rate in Paris being fifteen female to nine male cancer patients. The mortality at Cormeilles may be set down at ten times that in the capital, which is considered to present a fair average. The unusual proportion of male deaths in the village is, according to Dr. Arnaudet, owing to the fact that while in the city the uterus is often the seat of the disease, at Cormeilles the cancer almost invariably located in the stomach, and never once in the womb. Other Norman towns, as inquiry from brother physicians proved, showed a similar state of affairs. On grouping together the cases, and comparing the circumstances, too long to be here related, Dr. Arnaudet has come to the conclusion that there is no doubt of the transmission of cancer from one patient to another, and thinks the contagion has, in the present instance, had for a vehicle the water from village ponds used for making cider, the popular drink in Normandy. Cider-drinkers have been shown by medical statistics to be remarkably free from stone and urinary calculi. The immunity would be dearly purchased if cancer in the stomach is to be the price, were it not that Norman peasants can easily escape the dilemma by mixing their cider with none but pure water.

Correspondence.

PARIS LETTER.

FROM OUR SPECIAL CORRESPONDENT.

MICROBIOLOGY IN THE PROPHYLAXIS OF INFECTIOUS MALADIES; SUPPURATIVE COXALGIA; ACTION OF COCA ON THE VOCAL CORDS.

Paris, 21st June, 1889.

In a work on microbiology in the prophylaxy of infectious maladies, Dr. Fernand Roux makes some critical remarks which may be considered worth noticing here. Microbiology, he says, is a new science which has revolutionized medicine and has

proclaimed the pretension of establishing the prophylaxy of infectious maladies on a scientific and precise basis. This pretension has found few contradictors, and it has been admitted without restriction by certain confrères who preside over the destinies of official hygiene. It has often been asked what great progress microbiology has made since its introduction into medicine as regards the prophylaxy of contagious maladies. Cholera, which threatens us continually and which has been the subject of extreme interest, has been selected for investigation. It will be remembered the sensation that was caused in Europe by the discovery of the comma microbe which Koch affirmed to be the pathogenic agent of cholera. Admitting, for a moment, the correctness of this opinion, which is known to be contradicted by the majority of English physicians, the author asks what prophylactic results the discovery of Koch has produced? He cites the researches of MM. Gamaleïa and Yvert, which he says are not at all conclusive. For instance, pigeons that had been experimented on, and which died without presenting any symptoms of cholera after having been inoculated with a culture of the comma microbe, are registered as having been affected with cholera. M. Gamaleïa pretends that a person may be given a certain immunity against cholera by previously inoculating him with the attenuated disease. Such a theory may hold good with certain infectious maladies which, like the yellow fever, generally affect the same person but once, but this is not the case with cholera. A first attack of this affection does not afford the least immunity against a second attack. It may be predicted that the attempts that may be made in the direction followed by M. Gamaleïa shall be condemned to non-success. As regards M. Yvert, the prophylaxis which he says that he has discovered is extremely simple. The bichloride of mercury kills the microbe of Koch. Therefore, by administering it to patients affected with cholera they are cured, and by giving it to persons exposed to cholerigenic miasmata they would be protected against the disease. This theory would seem rational enough, but it is not confirmed by practice. M. Yvert says that he had obtained very good results with the bichloride during his practice at Tonquin. This method had been tried for a long time in India by the English physicians, and it did not prove more efficacious than the other remedies. As to the prophylactic value of the bichloride, if it be correct, observes Dr. Roux, the syphilitic patients submitted to the classical treatment should be protected against cholera. It has, however, been proved that the mercurial treatment is not only not prophylactic, but, as it troubles the digestive functions, it would constitute more a favorable cause to the development of the malady. In comparing, on the contrary, the results obtained by hygiene in the prophylaxy of cholera, we find that they are absolutely marvellous, and they have been obtained by the English physicians in India by observation alone and the study of epidemics, without a single theory being advanced. From 1826 to 1844 there died, on an average, annually from cholera 35 per 1000 inhabitants. At the present time the mortality has fallen to 2 per 1000. This almost incredible result has been obtained by simply substituting filtered water for that which was employed without taking into consideration from whence it came. Everywhere where this substitution was effected the cholera has diminished in such proportions that it may be admitted that the Europeans in India are protected against the disease if they do not commit any imprudence. At Calcutta, before 1870, the average mortality from cholera was 10.1 per 1000. Since this period, from which dates the establishment of pipes of filtered water, the mortality is 3 per 1000, having diminished by more than two-thirds. This result can only be attributed to the distribution of filtered water to the inhabitants. That which absolutely proves this fact is that in December, 1877, one of the principal reservoirs was seriously damaged, in consequence of which the distribution of filtered water was suspended for some time. The cholera, which before the accident was at its normal rate, assumed an ascending progression, and diminished as soon as filtered water was redistributed for consumption. It is true that enthusiastic microbiologists may say that precisely it is the microbe discovered by Koch, and which exists in the water, which propagates the cholera, and that consequently the prophylaxy of the malady proceeds from this fact. It may, however, be observed that a great number of English physicians, and those not among the least eminent, refuse to accept the ideas of Koch. The filtered water distributed at Calcutta does not pass on filters capable of retaining a microbe as small as the comma bacillus. Even should the theory of Koch be correct, it is not the less certain that the English physicians, ten years at least before the works of the German professor, had discovered the veritable prophylaxy of cholera, without having recourse to any theory whatever, and only by patient and repeated observations of choleraic epidemics. It may therefore be said that the prophylaxy of cholera was known, and put in practice, for some time in all parts of India by the English. After other critical remarks as to the futility of microbiology so far as regards the prophylaxy of cholera, the author declares that he has no intention of depreciating microbiology, which has rendered, in surgery, such considerable service that it has transformed this science. But when microbiology is introduced into medicine, and particularly into hygiene, it cannot have the same pretensions.

For some years past there have been many microbian theories developed, but all impartial medical men will acknowledge that as regards the prophylaxy of infectious maladies nothing new has been done. At least that which is given as such had been known and put into practice for a long time past. "It is certainly difficult to study and to follow step by step the progress of epidemics, to collect with care all the circumstances which favored them, or diminished their intensity. It is a fastidious work and gives but little credit to those who devote their time to it. It is otherwise convenient to find a microbe which gives glory and often profit to its discoverer. But, as regards serious results, the first method is the only one which, for the greater part of the maladies, and particularly for cholera, has useful effects. It is this which the English physicians have followed with success in India. We have only to read their works, and

shall not find in them a single word of theory, but the most interesting practical results. Should anybody have any doubt about the matter, he has only to recall to mind the considerable diminution of the mortality from cholera in India." The above remarks by Dr. Roux are worthy of consideration, as he had practised for several years in the French possessions in India.

Prof. Ollier, of Lyons, recently read a note at the Academy of Medicine on the distant results of the resection of the hip-joint in cases of suppurated coxalgia, regarded particularly in view of its definitive results. Since 1860 M. Ollier had practised this operation about fifty times, but he gives an account of the most ancient ones, which amount to fourteen, as it is only after a very long time that one can appreciate the results. These results show, without any doubt, that after the resection of the hip-joint, when it concerns a suppurated coxalgia, anchylosis is the termination which gives to the limb the *summum* of function for an active life. This anchylosis was generally obtained each time that the resection was properly performed under the periosteum, and that all the fibrous tissues of the old articulation had been carefully preserved. When the femur is anchylosed in a favorable position, with a slight flexion, the operated subjects may give themselves up to the hardest work and become indefatigable walkers. Once the anchylosis is established, there is nothing to be feared, in the way of secondary displacements, or of tuberculous or inflammatory foci. To sum up, one must, in the great majority of cases of suppurated coxalgia, seek to obtain anchylosis. However, one might preserve articular mobility when an early resection is practised, that is to say, as soon as an abscess around the articulation is suspected or established, because then the extent of the lesions of the soft parts being reduced to a minimum, one can hope for a very complete reparation of the articulation. Nevertheless M. Ollier does not recommend this procedure in all cases, as in many instances of suppurated coxalgias of childhood one can obtain cures by operations more simple than resection, such as the antiseptic opening of foci, injections of iodoform, drainage, etc.

A very interesting communication was recently made to the Société de Médecine Pratique by Dr. Sandras, who showed the falsity of the opinion that coca wine is the tightener *par excellence* of the vocal cords. The contrary was demonstrated by Dr. Sandras at the meeting of the society. After having sipped a tablespoonful of coca wine his voice became profoundly altered in intensity and tone. He therefore concludes that the coca wine paralyzes the vocal cords instead of strengthening them.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 6, 1889, TO JULY 12, 1889.

By direction of the Acting Secretary of War, the retirement from active service this date, by operation of law, of Colonel THOMAS A. MCPARLIN, Surgeon, under the provisions of the Act of Congress approved June 30, 1882, is announced. Colonel McParlin will repair to his home. Par. 2, S. O. 157, A. G. O., July 10, 1889.

SMITH, ANDREW K., Colonel, Surgeon U. S. Army, promoted Surgeon with rank of Colonel, to rank from July 10, 1889, vice McParlin, retired.

TOWN, FRANCIS L., Lieutenant-Colonel, Surgeon U. S. Army, promoted Surgeon, with rank of Lieutenant-Colonel, to rank from July 10, 1889, vice A. K. Smith, promoted.

By par. 1, S. O. 154, Hdqrs. Divn. of the Atlantic, July 9, 1889, Capt. H. O. PERLEY, Assistant Surgeon U. S. Army, is ordered to accompany troops from Fort Wayne, Mich., to Gognac Lake, Mich., to encamp there with the Michigan State troops from August 8th to 13th, 1889.

By par. 2, S. O. 154, Hdqrs. Divn of the Atlantic, July 9, 1889, Capt. H. O. PERLEY, Assistant Surgeon U. S. Army, is granted fourteen days leave of absence, to commence about July 14, 1889.

Leave of absence for one month is granted Capt. W. C. GORGAS, Assistant Surgeon, to take effect on the arrival of a medical officer to relieve him. Par. 2, S. O. 84, Hdqrs. Dept of the Missouri, July 3 1889.

By the direction of the Secretary of War, Captain ANDREW V. CHERBONNIER, Medical Storekeeper, will in addition to his present duties take charge of the office and perform the duties of Acting Assistant Medical Purveyor in St. Louis, Missouri, during the absence of Capt. GEORGE T. BEALL, Medical Storekeeper. Par. 2, S. O. 151, A. G. O., July 2, 1889.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING JULY 13, 1889.

WHITE, S. STUART, Assistant Surgeon, ordered to the Naval Hospital, Brooklyn, N. Y.

WHITE, C. H., Medical Inspector, detached from the "Trenton" and wait orders.

NORFLEET, ERNEST, Passed Assistant Surgeon, detached from the "Trenton" and to the "Monocacy."

AMES, H. E., Passed Assistant Surgeon, detached from the "Monocacy;" proceed home and wait orders.

HARRISON, G. E. H., Surgeon, detached from the "Constellation" and to the Naval Academy.

LOWNDES, C. H. T., Assistant Surgeon, detached from the "Constellation" and to the Naval Academy.

HARVEY, H. P., Surgeon, detached from the "Vandalia," July 7; proceed home and wait orders.

WHITE, S. STUART, Assistant Surgeon, detached from the "Trenton," July 7, 1889.

SOCIETY NOTICE.

NEW YORK STATE MEDICAL ASSOCIATION, FIFTH DISTRICT BRANCH. — The seventh special meeting of the Fifth District Branch of the New York State Medical Association will be held in Port Jervis, Orange Co., N. Y., on Tuesday, August 27, 1889. For those who are willing to spare the time after the meeting, a beautiful and interesting carriage drive of seven miles along the Delaware River to Milford, Penn., is promised. All are urged to make an effort to attend this meeting, as the committee of arrangements is making every preparation to insure an interesting meeting — both scientifically and socially

W. T. LUSK, M.D., President.

E. H SQUIBB, M.D., Secretary,
P. O. Box 94, Brooklyn.

THE CARTWRIGHT PRIZE.

The Committee of the College of Physicians and Surgeons of New York to award the Cartwright Prize send the following announcement: —

At the recent commencement of the College of Physicians and Surgeons of New York it was announced that the Cartwright Prize had been awarded to an essay written conjointly by Dr. Robert A. Hare and Dr. Edward Martin, of Philadelphia. But the successful competitors voluntarily surrendered the prize because their essay had just been awarded a prize elsewhere. It appears that the essay had been put into competition for both prizes, with the expectation that the decision of one prize would be made early enough to permit them to withdraw from the second competition in case they were successful in the first. But owing to delay in the decision of the prize which should have been announced first, and to the absence of the authors from home when the announcement was finally made, there was no opportunity for the intended withdrawal before the award of the Cartwright prize was published.

The award of the Cartwright prize has consequently been reconsidered, and the prize has been granted to Dr. Ira Van Gieson, Assistant Instructor in Normal Histology in the College of Physicians and Surgeons of New York, for his essay entitled "Studies in Neural Pathology, embracing (1) A Report of a Case of Syringo-Myelia; and (2) A Contribution to the Pathology of the Laryngeal and other Crises in Tabes Dorsalis."

DEATH.

Died in Northampton, July 11, 1889, AUSTIN WHITE THOMPSON, M.D., M.M.S.S., aged fifty-four years.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 6, 1889.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,571,558	956	566	39.52	7.28	33.80	.52	2.49
Philadelphia	1,040,245	422	224	24.72	9.36	21.12	.96	1.44
Chicago	830,000	—	—	—	—	—	—	—
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	280	166	41.04	4.68	38.52	1.08	—
St. Louis	450,000	165	85	23.79	6.06	22.57	.61	—
Boston	413,567	189	76	30.74	11.65	21.73	1.06	6.36
New Orleans	250,000	108	37	26.68	13.80	14.72	1.84	1.84
Cincinnati	225,000	151	—	27.06	11.88	17.82	.66	—
Washington	225,000	120	51	30.71	11.52	24.07	3.72	.83
Pittsburg	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	21	8	38.08	9.52	28.56	—	—
Charleston	60,145	37	20	24.30	8.10	18.90	2.70	—
Portland	40,000	12	4	8.33	8.33	8.33	—	—
Worcester	78,292	37	21	40.50	13.50	29.70	—	8.10
Lowell	71,518	45	28	37.74	15.54	35.52	—	2.22
Cambridge	65,552	34	21	38.22	11.76	29.41	2.94	5.88
Fall River	62,647	32	16	37.56	9.39	37.56	—	—
Lynn	53,334	16	—	12.50	25.00	—	12.50	—
Springfield	40,731	23	14	43.47	13.05	26.10	—	17.40
Lawrence	40,619	25	14	24.00	—	16.00	4.00	4.00
New Bedford	37,253	12	7	—	33.33	—	—	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	16	—	25.00	12.50	6.25	—	18.75
Brockton	28,813	8	4	—	—	—	—	—
Chelsea	28,167	16	—	31.25	12.50	25.00	—	6.25
Haverhill	26,058	11	10	81.81	9.09	81.81	—	—
Taunton	25,170	7	3	28.56	14.28	28.56	—	—
Gloucester	24,263	2	—	—	50.00	—	—	—
Newton	21,553	8	2	—	—	—	—	—
Malden	19,774	6	2	—	—	—	—	—
Fitchburg	17,534	8	2	12.50	—	12.50	—	—
Waltham	17,332	3	1	—	—	—	—	—
Newburyport	13,875	1	1	—	—	—	—	—
Northampton	13,726	—	—	—	—	—	—	—
Quincy	13,728	4	2	—	—	—	—	—
Woburn	12,822	—	—	—	—	—	—	—

Deaths reported 2755; under five years of age 1384; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 1916, consumption 244, acute lung diseases 140, diarrhœal diseases 759, diphtheria and croup 60, typhoid fever 28, whooping-cough 18, measles 16, malarial fever 15, scarlet fever 13, cerebro-spinal meningitis 4, puerperal fever 2, erysipelas 1. From whooping-cough, New York 11, Philadelphia 3, Boston 2, Washington and Worcester 1 each. From measles, Cincinnati 9, New York and New Orleans 3 each, Nashville 1. From malarial fever, New York and New Orleans 6 each, Philadelphia Nashville, and Charleston 1 each. From scarlet fever New York 7, Baltimore 4, St. Louis and Cincinnati 1 each. From cerebro-spinal meningitis, Cincinnati 3, Boston 1. From puerperal fever, Washington 3. From erysipelas, Philadelphia 1.

In the 28 greater towns of England and Wales, with an estimated population of 9,555,406, for the week ending June 29th, the death-rate was 17.3. Deaths reported 3170; infants under one year 843; acute diseases of the respiratory organs (London) 169, diarrhœa 185, measles 99, whooping-cough 93, scarlet fever 41, fever 35, diphtheria 24.

The death-rates ranged from 13.0 in Bristol to 25.9 in Manchester; Birmingham 15.5; Bradford 16.4; Hull 22.1; Leeds 22.6, Leicester 20.1; Liverpool 20.5; London 15.2; Nottingham 14.9; Sheffield 169 Sunderland 24.9.

In Edinburgh 14.3; Glasgow 21.6; Dublin 23.2

The meteorological record for the week ending July 6, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps: —

Week end'g	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.		Velocity of Wind.		State of Weather.*		Rainfall.	
Saturday, July 6, 1889.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8 A. M.	8 P. M.	Daily Mean.	8 A. M.	8 P. M.	8 A. M.	8 P. M.	8 A. M.	8 P. M.	Duration. Hours & Min.	Amount in inches.
June 30	30.16	74.0	83.0	68.0	74	84	79.0	S. W.	S. E.	10	3	C.	C.		.00
July 1	30.29	71.0	77.0	66.0	77	86	82.0	S. W.		5		G.	C.	0.10	T.
" 2	30.28	67.0	72.0	64.0	90	93	92.0	S.	S. E.	3	6	O.	O.	0.48	.05
" 3	30.09	71.0	77.0	69.0	95	95	95.0	S.	S. W.	11	13	R.	R.	10.30	.48
" 4	29.87	70.0	78.0	64.0	88	92	85.0	S. W.	W.	14	9	O.	O.	8.40	.10
" 5	30.02	70.0	76.0	64.0	83	79	81.0	N. W.	S. E.	12	2	F.	C.		.00
" 6	30.18	70.0	80.0	61.0	81	72	76.0	N.	S. W.	10	9	C.	C.		.00
Means for the Week															

* O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

Original Articles.

A CONSIDERATION OF THE USE OF GASES IN PENETRATING WOUNDS OF THE ABDOMEN.

BY HERBERT L. BURRELL, M.D.

Before the American Medical Association, at its meeting in May, 1888, Dr. Senn demonstrated what he termed an infallible test in the diagnosis of visceral injury of the gastro-intestinal canal in penetrating wounds of the abdomen by the rectal insufflation of hydrogen gas.

The importance of being able to detect an injury to the gastro-intestinal canal without performing a laparotomy was evident to the minds of most practitioners, and the thought which Dr. Senn had carried into effect of detecting a perforation in the gastro-intestinal canal by hydrogen gas at once placed it among the brilliant innovations. His method, in short, was as follows: —

Hydrogen gas, being insufflated into the rectum, would pass up the intestinal canal, through the perforation in the intestine, into the peritoneal cavity, and out through the wound in the abdominal parietes.

When it appeared at the abdominal wound it was there lit, a slight explosion occurred, and a bluish flame resulted.

After careful experimentation on a large number of dogs, Dr. Senn had concluded: [2] —

"That the entire alimentary canal was permeable to rectal inflation of air or gas under a pressure of from one-fourth of a pound to two pounds. That inflation of the entire alimentary canal from above downwards, through a stomach-tube, seldom succeeds, and should therefore only be resorted to in demonstrating the presence of a wound in the stomach or its immediate vicinity. That the safest and most effective rectal insufflator is a rubber balloon large enough to hold 16 litres of air or gas.

The resisting power of the intestinal wall is nearly the same throughout the entire length of the canal, and in a normal condition yields to diastaltic force of from eight to twelve pounds of pressure.

When rupture takes place it either occurs as a longitudinal laceration of the peritoneum on the convex surface of the bowel or as multiple ruptures from within outward at the mesenteric attachment.

The former result follows rapid and the latter slow inflation.

Hydrogen gas should be preferred to atmospheric air or other gases for purposes of inflation in all cases where this procedure is indicated. Hydrogen gas is devoid of all toxic properties, non-irritating when brought in contact with living tissues, and is rapidly absorbed from the connective tissue spaces and from all the large serous cavities. The escape of air or gas through the ileo-cæcal valve from below upwards is always attended by a blowing or gurgling sound heard most distinctly over the ileo-cæcal region. In gun-shot wounds of the gastro-intestinal canal, insufflation of hydrogen gas enables the surgeon to demonstrate positively the existence of the visceral injury, without incurring the risks and medico-legal responsibility incident to an exploratory laparotomy.

These were the propositions presented by Dr. Senn, and the profession at once assumed a questioning attitude.

The following objections were made to the method: —

First: That it made but little difference whether the wound existed in the intestinal tract or not. That an exploratory laparotomy was indicated in every penetrating wound of the abdomen.

Second: That the test was not infallible, from mechanical obstruction of the intestine or intestinal flexures.

Third: That the contents of the intestine would be blown out into the peritoneal cavity.

Fourth: That a mixture of hydrogen gas and air would result in an explosive compound which might do injury, not alone to the patient, but to the surgeon and assistants.

Fifth: That arseniuretted hydrogen from impure zinc might be generated, and that here lurked a danger, in that poisoning might occur.

Any one who has carefully studied the experimentation that Dr. Senn carried out preliminary to presenting his conclusions, cannot help being impressed by its thoroughness and thoughtfulness.

The problem was presented to me in August, 1888, of whether there was a perforation of the intestinal canal in a stab wound of the abdomen.

The following is a history of the case: —

W. F. D., male, æt. 45. August 25, 1888. At about four o'clock this morning, patient was coming out of his house, when he was stabbed in the right side by an unknown man, who immediately turned and ran away. Patient is a large, well-developed man, with fat, flabby, abdominal walls.

Extending from a point one and one-half inches in front of right anterior superior spine of ilium downwards and inwards is an incised wound about one inch in length, with clean-cut edges; probe enters easily three quarters of an inch; small shreds of clothing in wound; slight hæmorrhage; general condition of patient good; no shock; very little pain. Six hours after accident patient etherized, and hydrogen gas was insufflated into the rectum under gentle pressure; abdomen much distended; lighted match over wound falls to cause any ignition of the gas; a slight cracking was felt over the wound, and a small knuckle of intestine was found caught in the wound. Wound enlarged upwards and downwards to about three and one-half inches; knuckle of intestine drawn out and found to have been slightly wounded at its mesenteric attachment; small ecchymosis about point of injury; a few small blood-clots removed; intestine and wound irrigated, with 1: 10,000 of corrosive sublimate, and returned to abdominal cavity. Wound closed with four deep silk sutures through abdominal wall and peritoneum, and superficial silk sutures.

Dressed with sterilized gauze and sheet-wadding; broad cotton-flannel swathe.

Patient's recovery was uneventful; the distention from the gas passed away within an hour, and his temperature never rose above 99°.

So far as known to the writer there have been seven applications of the hydrogen gas test made to detect wounds of the intestinal canal: —

One case, pistol-shot wound (.38 calibre) of abdomen. Mackie.[3] Two wounds of the stomach, two of the small intestine, and several wounds of the mesentery; all of the wounds detected. Death from septic peritonitis.

Two cases[4] where Fenger applied the test to pistol-shot wounds of the abdomen. The first case is important, for the information obtained by the insufflation of hydrogen negatived a laparotomy, yet six days later Fenger did a laparotomy on this patient and found an abdominal abscess in the coils of the intestine. The patient died eight hours later, and at the autopsy, on separating the adhesions, three more pus cavities were found and general peritonitis. No perforations of the intestines were found, and the inference is that septic peritonitis occurred from failure to properly cleanse the primary bullet wound. Fenger's second case demonstrated satisfactorily the hydrogen test, but ended fatally. Fourteen perforations were found, besides two severe contusions.

One case, pistol-shot wound of the stomach.[5] Patient died on the table from shock and the severity of the injury. Hydrogen test satisfactory.

One case, gun-shot wound (.44 calibre.)[6] Nine perforations of the intestinal canal. Death from shock. All the intestinal wounds found closed at the autopsy.

Two cases by Senn.[7] First case is really remarkable (rifle-shot wound .22 calibre). Twelve perforations were found in the intestines; the last was situated in the deepest portion of the pelvis, and would have doubtless been overlooked had not hydrogen been used. A most desperate case, and yet recovery ensued. Second case, rifle-shot wound (.22 calibre). All the perforations detected and closed. Death from septic peritonitis, which existed at the time of the operation.

Before the use of hydrogen was suggested by Senn we determined the presence of an injury of the intestinal canal by inference, from the symptoms presented by the patient, or by looking at the whole intestinal tract after an exploratory laparotomy. The first method, by inference, was too uncertain to be of any value; while the second, by laparotomy, was attended by considerable risk, not alone from the shock of a prolonged operative procedure, but from the danger of overlooking some of the intestinal wounds.

[1] Read at the meeting of the Surgical Section of the Suffolk District Medical Society, April 3rd, 1889.

[2] Journal Am. Medical Association, June 23-30, pages 767 and 807.

[3] 1 Med. News, June 9th, 1888.

[4] J. Am. Med. Assoc., J. L. Hillmantel, July 21, 1888, p. 83.

[5] Senn. Med. News, Aug. 25, 1888, p. 202.

[6] Schenck, W. L. Jour. Am. Med. Assoc., Oct. 13, 1888, p. 521.

[7] Med. News, Nov. 10, 1888, p. 528.

Concerning the value and importance of Senn's method there can be but little question. It, however, seemed to the writer that the hydrogen gas test would fail to be generally adopted by the profession, owing to the difficulties attending the securing the gas and the sensational and apparently dangerous way of testing for it, that of lighting the hydrogen, and that consequently Senn's brilliant effort would fall short of its true worth, resulting in a serious loss to surgery.

This led me to see if Senn's method could not be modified so as to combine safety and simplicity in its application and accuracy in its determination.

Senn's reasons for selecting hydrogen gas were apparently: that it is the lightest gas known; that it is innocuous and non-irritating; that its ignition at the seat of the abdominal wound demonstrates its presence, and its burning will asceptic-ize the wound.

We have in the intestines Co_2H, N, CH_4, and SH_2,[8] in varying quantities, according to the diet of the patient; reasoning by analogy, if hydrogen could be used to inflate the intestines, any of the above non-poisonous gases, including air, might be used as well as hydrogen, for all of them are sufficiently diffusible, especially under pressure, to be used for this purpose. From a physiological standpoint there seemed to be no reason why H, O, CO_2, or air might not be used.

Regarding the ignition of the gas at the abdominal wound, this seemed to the writer to be a disadvantage, and the point of antisepticizing the wound is not one of any importance.

I determined, therefore, to try Co_2, O, H, and air. Co_2 is readily obtainable by the action of HCl on marble; H by the action of some acid on Zn; O can be readily obtained at a slight cost in iron cylinders, under pressure; while air is free to all without the asking.

This accessibility of air is a matter of the greatest importance, for the delay incurred in procuring other gases might readily prove fatal to the patient. A series of experiments were instituted and all of the above gases were tried on dogs. I attempted to ascertain —

The best arragement for carrying out rectal insufflation.

To find a more satisfactory gas than hydrogen, and to determine a practicable test for the gas used, either chemical or physical.

To demonstrate the practicability of the gas selected and the tests chosen, upon dogs and other animals.

Method of rectal insufflation. — I should always give an enema before beginning insufflation, for, of course, fæces might readily occlude the lumen of the tube. The apparatus necessary for rectal insufflation is a rubber bag of about sixteen litres capacity, a few feet of rubber tubing, and a glass rectal tube. Useful and almost necessary acessories are a wash bottle and manometer. The apparatus is arranged for use in the following manner: the bag is first inflated with air or gas to be used, and by means of a rubber tube is connected with the wash bottle. The manometer is then connected to the wash bottle by means of a T tube, and to the remaining end of the T is attached a rubber tube bearing the rectal tube.

The tube being introduced a short distance into the rectum, the stop-cock in the bag is carefully opened and the air or gas is allowed to bubble through the wash bottle, when the mercury in the manometer will rise more or less according to the resistance at the end of the rectal tube.

In order to prevent the escape of the air or gas outward, it is necessary to tightly grasp the sphincter about the tube. It is perhaps on this more than on any other point that success or failure depends. The rectal tube should be double, that is, a tube within a tube; this is readily improvised by placing a small piece of glass tubing within a larger one drawn out somewhat to a point and joined together by means of a section of flexible rubber tube. By this means the outflow of air or gas is seldom obstructed. In introducing air or gas into the rectum the following points may be noticed: If there is bubbling in the wash bottle and a proper pressure is indicated by the manometer, air or gas is passing into the intestinal tract. If there is bubbling in the wash bottle and no pressure is indicated by the manometer, or very little, there is leakage about the rectal tube. If there is no bubbling in the wash bottle and a high pressure is indicated by the manometer, there is obstruction to the entrance of air or gas, either by stoppage of the tube by fæces, or by the impinging of the end of the tube against the rectal wall. When the air or gas is going in there is very little question about it, for the inflation proceeds with great regularity.

The length of time that is consumed in insufflation per rectum has varied very greatly, and the above factors have assisted me considerably in carrying out the procedure.

As to the proper pressure to use, Senn has advised from a quarter of a pound to two pounds to the square inch. This pressure in my hands has been sufficient in all cases, and I believe is perfectly safe. Senn states that the inflation must always be made slowly and under steady pressure. I consider both of these points of the greatest importance, and they should be strongly enforced. He further found by experimentation that healthy intestines do not rupture under a pressure of less than eight to twelve pounds.

The writer has found that with a man of about one hundred and fifty pounds weight sitting upon the inflated bag and the end of the rectal tube closed, a pressure of only one and a half pounds to the square inch is indicated. When the air is flowing through the wash bottle at a rate a little faster than one can count the bubbles, the pressure will be about half a pound to the square inch, so that the wash bottle becomes an approximate measure of the pressure.

If necessity demands it, the wash bottle and manometer could be dispensed with, since the greatest pressure which would be obtained under the above conditions is far below that required to produce a rupture of the intestines. Still both wash bottle and manometer should be used when practicable,

[8] The following table shows the proportion in which certain gases occur in the intestinal canal. 1 Ruge. Wien. Sitzungsberichte, 1862, p. 729.

CO^2.....40.50	H 22.20
N.....17.50	SH^2....a trace only
CH^4.....19.77	

as they place the whole procedure on a more accurate basis.

In the absence of a regular gas bag, the surgeon might readily utilize any of the air receptacles that are in common use, such as a football, air life preserver, or air pillow. The point is simply to have an elastic receptacle for the air, that one may secure a steady, uninterrupted pressure in insufflation.

Experiments with gases and air on dogs. — I accepted that the gastro-intestinal canal was permeable to hydrogen, from Senn's experiments.

A small French poodle was etherized, and a stomach tube passed down his œsophagus; this tube was connected with a wash bottle containing a baryta solution. Rectal insufflation of carbonic dioxide was slowly and carefully made, from an eighth to a half of a pound of pressure being used. Carbonic dioxide soon began to appear, bubbling up through the baryta solution and rendering it milky. The dog soon recovered from the effects of the anæsthetic and the carbonic dioxide, and was perfectly well in every respects afterwards.

The insufflation bag was filled with expired air from my own lungs. A water spaniel was etherized and a stomach tube inserted, which was connected with a wash bottle. Under a half of a pound pressure, the air which was insufflated by the rectum soon appeared in the wash bottle, where the bubbling was quite vigorous. The bubbling could be made more or less prominent by increasing the pressure on the inflation bag. This dog soon completely recovered.

A cur collie, sixty pounds, was next insufflated with oxygen after etherization, but for some unknown reason I failed to demonstrate the permeability of the whole canal by the stomach tube. The abdomen being uniformly distended by the oxygen, the collie was twice stabbed with a knife six inches in length and a half an inch blade. The first stab, just to the right of the navel, was only three inches in depth, and apparently did not wound the intestine. The second stab was just to the left of the navel, and six inches in depth. Under gentle pressure on the abdomen the gas came bubbling out of the wound. The slightest pressure on the abdomen or increase of pressure on the bag caused more active bubbling at the wound. A blown-out but glowing match was held in contact with the current of gas bubbling out of the wound, and the match immediately broke into a flame. This was repeated a number of times, the match glowing and subsiding and glowing again. A glass tube which had been drawn to a point was introduced into the wound and the gas was conducted into a wash bottle. Oxygen was again demonstrated as it issued from the wash bottle. The abdomen was then opened, the intestines were found distended, and here and there were found springs of gas bubbling up, coming from the seats of injury.

This bubbling up of the gas, the abdomen being partially filled with hot water, is a very striking phenomenon, and led the investigator at once to the intestinal wounds. No extravasation of fæces. The largest wound was a longitudinal slit one-third of an inch in length, in the ilium.

Brown and white spaniel, etherized. Shot through the abdomen, transversely (.22 calibre). Bullet lodged at a point diametrically opposite, under the skin. Hydrogen insufflation was carried out under an eighth to a half a pound of pressure, until the abdomen was uniformly distended by the gas, but it did not appear at the wound of entrance.

Bullet cut down upon, and a rush of gas heard and the bubbling seen. Hydrogen ignited and burns with a flame three inches in length. Abdomen opened. The pelvis in this case was found filled with blood; the intestines moderately distended. Three lacerated wounds of ilium were found, and one of the vermiform appendix, from which there was a blowing out of fæces. The spleen, left kidney, and aorta had been perforated by the bullet. The hydrogen in this case did not come through the wound of entrance, owing to the obliquity of the track of the bullet, and the shifting of the planes of abdominal muscles during distention.

At this point I became convinced that the physical test for the gases, that of the bubbling and hissing at the wound, was all that was necessary to demonstrate their presence. Just here it may be said that in the application of the chemical tests for the gases in the foregoing cases a little sensationalism is introduced, which, while it may be gratifying to the operator, is entirely unnecessary. For in all my experimentation the first indication of the presence of air or gas has been bubbling and hissing at the wound, and the application of any chemical test has been to identify the individual gas used. This identification of the gas is superfluous, for unless the gastro-intestinal canal is perforated there can be no escape of air or gas. So that the escape of air or gas in any quantity is as marked a phenomenon as any we could have, and is positive evidence of a perforation and a guide to the seat of injury.

I therefore decided to select air as the simplest, safest, and most readily obtainable agent that could be selected for this purpose.

If exception is taken to air as compared with hydrogen on account of its septicity, it may be said that any gas which is selected for use must pass over a tract laden with germs, and hence this objection is not tenable.

Further experimentation was made with air.

A small brown spaniel, after etherization, was shot transversely through the abdomen (.22 calibre). Air insufflated per rectum under a pressure of an eighth to a quarter of a pound pressure. A slight bubbling occurred at the wound of entrance in three minutes, but quickly stopped. Considerable difficulty in preventing the escape of air about the rectal tube. Finally, the wound of entrance was enlarged, when the air came bubbling and hissing out of the peritoneal cavity. Again we had the parietal wound shut off by shifting of the planes of muscles of the abdomen, during distention. A glass tube connected with a wash bottle was introduced through the wound into the peritoneal cavity, when bubbling in the wash bottle could be made more or less vigorous by pressure on the bag. Autopsy: No fæcal extravasation. A double wound through the ilium was found which would have necessitated resection of the intestines.

The perforation in this case could have been demonstrated in from seven to ten minutes had the rectal tube worked well.

A small black poodle was etherized and shot transversely through the abdomen (.22 calibre). Air insufflation; tested at the wounds of entrance and exit of the bullet: negative. Abdomen fully distended. In twelve minutes an incision one and a half inches was made in the linea alba, peritoneum nicked, and immediately there came a hissing and bubbling of air from the peritoneal cavity. Wound at once enlarged to three and a half inches. An unsuccessful attempt was made in this case to save the dog by closing the six intestinal wounds. Operation lasted one hour and forty-two minutes. Six intestinal wounds were secured and three intestinal resections were made by Dr. H. W. Cushing. A great deal of hæmorrhage occurred from the wounded mesenteric vessels. The greatest assistance was rendered by the air insufflation in finding the sites of injury, some of which Dr. Cushing and I felt might readily have been overlooked had it not been for the insufflation of air. Finally, the patency of the whole canal and the security of the intestinal sutures having been tested by air insufflation, the abdomen was closed. The dog survived the operative procedure twelve hours.

At the autopsy, all of the wounds were found tightly closed by "the right angle suture," and the peritoneal cavity free from any effusion.

The rapid subsidence of the intestinal inflation has been a matter of astonishment to the investigator. Not the slightest difficulty has ever been experienced in replacing the intestines within the peritoneal cavity.

The insufflation of air or gas is open to the following objections: —

First, mechanical distention of the patient's abdomen.

Second, the additional apparatus necessary to apply the test.

Third, that laparotomy is always indicated, and that the information obtained by the gas test is superfluous.

Fourth, that the air or gas used may blow out fæces into the peritoneal cavity.

Fifth, that danger exists in the use of gases from their possible poisonous effects, and the possibility of explosion in testing for certain gases.

Conclusions.— That Senn has demonstrated that by a gas test we have a means of obtaining important information, where there is a question whether the gastro-intestinal canal is wounded or not; that the test has been applied to patients, and found to be of great importance; that at present it is unwise to claim for the test infallibility; that it is still *sub judice*, but should receive a careful trial in all cases, that not alone its diagnostic value may be determined but its medico-legal value be accurately placed.

That its position as a test, when obtained, is of great importance; but that, because air or gas does not come out of the wound in the abdominal parietes, does not prove that there may not be a perforation of the intestinal canal.

That in air we have an agent whose presence can be determined by rectal insufflation in punctured wounds of the gastro-intestinal canal; that hydrogen, oxygen, carbon dioxide, and other gases can all be used for this purpose.

That probably in all cases the insufflation of air may be followed by sight and hearing throughout the course of the large intestine, and all observers speak of the gurgling that takes place when the gas passes the ileo-cæcal valve into the small intestine.

That one of the most important applications of the air test will be to determine whether all the wounds in the intestine are closed, to demonstrate the competency of the intestinal sutures, and the permeability of the canal after intestinal suturing or resection.

That contrary to what might naturally be expected, experimentation has thus far demonstrated that air or gas rarely blows fæces into the peritoneal cavity; that, even if it does, the information obtained by the test is of such importance that the objection may be disregarded.

That in punctured wounds of the abdomen (by this is meant perforation of the peritoneal cavity) laparotomy is always indicated; not necessarily to deal with the perforations of the intestinal canal, but that antisepsis may be established and hæmorrhage controlled.

From an operative standpoint I should divide penetrating wounds of the abdomen into two classes. First, where from the use of a knife or from a small bullet the surgeon is in doubt whether the intestinal tract is wounded or not. Second, where it is almost self-evident from the symptoms of the patient, or the character of the projectile used, that the intestines are surely wounded. In the first case, where there is a question whether the intestinal tract is wounded or not, I should insufflate air per rectum, and if it were demonstrated that the intestines were perforated I should proceed with a median laparotomy. If, on the other hand, no evidence is obtained from the air test that the intestinal tract is wounded, I should enlarge the punctured wound, cleanse carefully, and unite the wound. In the second case, where the gastro-intestinal canal is undoubtedly wounded, I should perform a median laparotomy, and then carefully distend the intestines by rectal insufflation of air, keeping the abdomen partially filled with hot water, to prevent shock. The bubbling of air would demonstrate the points of the wounds in the canal, and thus shorten the operative procedure.

After securing each wound of the canal, I should again insufflate air, and in this way I think time could be saved in this serious class of cases.

During this investigation I have received the assistance of a number of gentlemen, and it is my desire to acknowledge my indebtedness to them.

Especially to Mr. G. R. Tucker, chemist and bacteriologist, I desire to express my gratitude for the valuable suggestions and hints that he has made, which have materially assisted in the investigation.

TWO CASES OF LAPAROTOMY FOR PENETRATING WOUNDS OF THE ABDOMEN, WITH REMARKS.[1]

BY ARTHUR T. CABOT, A.M., M.D.

Since Dr. Bull's first case of pistol-shot wound of the intestines awakened interest in the treatment of these injuries, and in view of the constantly increasing list of patients successfully treated in the same manner, the duty of the surgeon to endeavor to repair intestinal injuries made by penetrating weapons or missiles has been almost universally accepted.

The following cases are presented as a contribution to the statistics of this class of injuries.

Case 1. Stab wound of the abdomen: recovery.

Margaret K., who gave her age as about fifty, but who looked much older, entered the Massachusetts General Hospital August 18th, 1886. She was a spare, frail-looking woman. A little more than an hour before entrance she had been attacked by a man with a large pocket-knife. There was a long superficial cut on the right side of her neck, also a cut in the left labium. The abdominal injury was a punctured wound through the outer edge of the rectus muscle on the left side, about an inch below the level of the umbilicus. The patient was pale, as if she had lost considerable blood. She was not suffering much pain.

An immediate exploratory operation was undertaken to see whether the peritoneum was opened, and if so, whether any internal injury had been done. As it was found that the knife had entered the abdominal cavity, the opening was enlarged enough to examine the viscera. One or two ounces of clotted blood lay in front of the intestines; this was sponged out, and a careful examination made of all the coils of intestine lying near the point of puncture. No wound of the intestinal wall was found, and there was no further bleeding as from wounded viscera; the incision was therefore closed. The patient recovered well from the ether, and was reasonably comfortable, with moderate abdominal pain.

August 21st (the third day). The dressing stained through, and on investigation it was found that the stitches, which were of paraffined silk, had slipped their knots, and a little mass of omentum about the size of a child's fist had protruded. Ether was given, and after returning the omentum to the abdominal cavity the wound was firmly sutured. From this time recovery was uninterrupted, and the patient left the hospital well in the early part of September.

In this case the anæmic, feeble condition of the patient gave rise to the fear that hæmorrhage was going on inside the abdomen. In the absence of much blood in the peritoneum it is probable that there had been a greater loss of blood from the external wounds than was thought at the time.

Case 2. Pistol-shot wound of the stomach: laparotomy and suture of the stomach wall; recovery.

Robert E., twenty-one years old, entered the Massachusetts General Hospital the evening of July 3rd, 1888.

Two hours previous to entrance, while standing beside a companion who was handling a revolver, he had been accidentally shot in the abdomen. The distance from the muzzle was about three feet. The ball, of 22 calibre, entered the body two inches above and one inch to the left of the umbilicus. The accident happened about an hour after he had taken a full supper. When seen he was suffering a moderate degree of pain about the wound, and this was increased somewhat by taking a long breath. On palpation there was some tenderness around and above the wound. He had not vomited nor felt any nausea. Laparotomy was advised and at once done.

A vertical incision three inches in length was made so that the bullet opening lay in the middle of it. The transverse colon at once presented in the wound, and was carefully examined for a considerable distance on either side; its mesentery was also inspected, but no wound found. The stomach was then drawn down into view, and at once the bullet hole was seen at about the middle of the anterior wall.

The wound was a simple puncture, which did not gape, and through which there had been no escape of the stomach contents, even though the patient had vomited quite freely while going under the influence of the ether. The hole was turned in, and closed by five interrupted Lembert sutures of fine silk.

The close condition of the wound in the anterior stomach wall, and the absence of extravasation of the stomach contents through it, made it seem wiser not to extensively separate the omental attachments of the organ in order to get at the posterior wall. This would have involved a much larger abdominal incision, and from the apparent line of the bullet it seemed likely that the wound of exit was close to the smaller curvature, where it would have been reached with difficulty, and at the expense of considerable violence of manipulation.

Further search was therefore not attempted, and the abdominal wound was closed.

The patient vomited much after the ether, but otherwise did well.

For three days he took nothing into his stomach but a little water; he then began to take milk and lime water cautiously, and gradually resumed ordinary food.

On the seventh day his bowels acted freely after a senna enema.

He was out of bed on the fifteenth day, and went home at the end of eighteen days.

Since then he has been seen several times, and although he has suffered somewhat from debility, and has not regained fully the flesh that he had before his accident, yet the most careful and thorough examination fails to reveal local trouble anywhere either in the abdomen or chest.

Shortly before the occurrence of my second case Dr. Senn, who has done so much excellent experimental work in the abdominal cavity, suggested a new way of determining whether a penetrating wound of the abdomen opened the alimentary canal or not. This was by the injection into the rectum of hydrogen gas, which, if it escaped through the wound in the abdominal wall, could be ignited, and thus demonstrate beyond doubt the existence of an

[1] Read at the meeting of the Surgical Section of the Suffolk District Medical Society, April 3rd, 1889.

opening somewhere in the intestinal tube. He has shown, by experiment, that the hydrogen gas will thus make its way out; and I believe that until now it has escaped any admixture of oxygen which might form with it an explosive compound and make its ignition a dangerous matter.

Dr. Senn's experiments have shown that the gas finds its way upwards through the whole alimentary canal, and in one case he determined the existence of a perforation of the stomach by the escape of gas through a bullet wound in the lower part of the chest.[2]

Dr. Senn's other work in abdominal and other branches of surgery has been so full of practical suggestions, that a surgeon having a perforating wound of the abdomen, and neglecting to apply a test so highly praised by him, is open to the charge of a disregard of necessary precautions if he cannot show good reasons for his neglect. This must be my excuse for setting forth certain considerations which still deter me from the use of insufflation in these cases. Further experience may show the objections I shall state to be purely theoretical, but until this is demonstrated I shall prefer to treat wounds of the human abdominal cavity in a less experimental way.

Hesitation to use insufflation for the perfection of diagnosis may arise from two fears: one, that it may sometimes fail as a means of testing the condition of the intestines, whether injured or not; and the other, that it may introduce additional dangers into the case.

That it is possible in most cases to demonstrate the existence of a perforation of the intestine in this way has been abundantly shown. Whether the injection of hydrogen furnishes an infallible test may well be doubted. The abdominal wall being made up of separate layers of muscles and other tissues, which shift upon each other with every movement of the body, it must now and then happen that the opening through it is tightly closed, and will not permit the passage outward of gas that has escaped among the intestines. Errors from this cause may generally be avoided by the introduction through the wound of a pair of dressing forceps, a director, or a tube; but with a thick, fat, abdominal wall these measures may fail, especially if the omentum plugs the wound on the inside.

Again, suppose a bullet perforates a coil of intestine that is full of liquid fæces. It is evident that the gas cannot escape through until it has pushed the liquid out before it.

If it is acknowledged that the gas will sometimes not escape even though the intestine is injured, what guidance does the surgeon get from its use in deciding the question whether in a given case to explore the abdomen? In the cases in which the hydrogen gas test succeeds in demonstrating a perforation, we shall certainly do laparotomy.

But what are we to do in the cases in which it does not succeed? Are we then justified in not doing an exploratory operation?

This is the question which the surgeon has to meet; and until it is shown that the fear that in a certain proportion of cases of perforation the test will fail is groundless, he must either do a laparotomy, even in the cases in which hydrogen gas does not issue through the external wound, or he must expect to leave some cases of perforation not operated upon.

Furthermore, it should be remembered that perforation of the intestine is not the only injury wrought by penetrating wounds, which it is the surgeon's duty to rectify. Serious lacerations of the mesenteric or other vessels may exist even without a perforation of the intestine. In both of the cases of intestinal suture reported by Dr. Senn in the Philadelphia *Medical News* of November 10th, 1888, there was profuse bleeding from the mesenteric veins, and the ligation of these was one of the important benefits of the operation.

It is the strong chance of such accidents as this, and the feeling that there will be cases in which perforations of the intestines or stomach will escape the hydrogen gas test, that make the writer feel that in the cases where no hydrogen emerges from the outer wound the surgeon would still not be justified in foregoing an exploratory operation.

If this feeling is borne out by facts, and an exploration is called for whether the hydrogen test succeeds or not, it is obviously a waste of time to apply the test, even supposing the injection of the gas to be a harmless proceeding. But is this last supposition correct?

Dr. Senn says that the gas is aseptic and therefore innocuous. Does he mean by this that the gas, after passing through many feet of intestine, enters the peritoneal cavity in an aseptic condition? And what is to be said of the intestinal contents that the gas drives along with it? They are certainly not aseptic, and it is therefore evident that there is a strong possibility that the injection of gas may add to the dangers of a given case, and should not be lightly used.

What has been said up to this point applies only to the use of the gas for diagnostic purposes before an incision has been made.

There is another use of gaseous insufflation to which Dr. Senn calls attention in the paper already referred to, which may be of great service.

After closing all of the perforations that he could find, he again injected the hydrogen into the rectum and it at once began to bubble up from the pelvis. Following down the sigmoid flexure, and compressing it at different points, the gas still escaped until he reached the rectum, where he found and closed a last wound.

Continuing the injection, he saw the gas go up past the openings that he had closed, and, finally, stopping the injection to avoid the too great distention of the bowels, he pressed the gas already introduced upwards from coil to coil until he reached the duodenum and stomach, without finding any more perforations.

This application of the insufflation, after all of the openings that can be readily found have been closed, seems to be of undoubted value. It enables the surgeon to make a quick but thorough exploration of the bowels with the least possible amount of handling. The gas escapes at once into the air, and does not carry impurities throughout the abdominal cavity, and if it carries with it liquid fæces their escape is at once perceived and they are quickly removed by irrigation.

[2] In this case the injection was made directly into the stomach.

For this exploration it would seem that air would be equally good with hydrogen gas.

The suggestion of this procedure adds one more to the capital points in abdominal surgery for which we are indebted to Dr. Senn.

To return now to the consideration of the cases reported. In both of them laparotomy was performed at once when they were first seen.

This practice of immediate laparotomy, without waiting for convincing symptoms of serious intra-abdominal lesion, seemed wise, for the following reasons: —

First: It was felt that the enlargement of the penetrating wound through the abdominal wall added little or nothing to the severity of the injury, and would give the opportunity to discover and repair any lesion of the intestines or other abdominal contents before the occurrence of peritoneal inflammation. The absence of danger in a simple incision into the abdomen is generally recognized.

Secondly: We know that symptoms are often very poor guides to an appreciation of the severity of intra-peritoneal injuries, and if we wait until the patient's condition demands an operation, we shall often find that a serious inflammatory condition has arisen, which we are powerless to stop, even though we may succeed in closing the intestinal wound that gave rise to it.

The cases are as yet too few to determine the ratio of the increased danger in delayed operations, but experiences are not wanting to show that it is very large.

Thirdly: In the event of any considerable vessel being injured it is, of course, important to stop the bleeding early before the patient is seriously exhausted. Here again, if we wait until the symptoms of internal hæmorrhage are unmistakable, we shall run a serious risk of letting the patient slip into a condition from which he cannot be recovered.

In view of these considerations it seemed to the writer, and he still thinks it a good rule in practice, that — in a case of penetrating wound of the abdomen, made by a sharp weapon or by gun-shot — the wound should be followed carefully down until the operator is convinced that it enters the abdominal cavity. When this is established the peritoneum should be opened with enough freedom to allow of a sufficient inspection of the abdominal contents, and for the repair of any injury found.

It seems probable that by this immediate operation cases will be saved which would be lost if time were given for the peritoneum to inflame or for serious loss of blood to occur; whereas with proper care in making a clean, aseptic operation the surgeon will rarely, if ever, feel that he has added to his patient's risk by the exploration.

TWO CASES OF PENETRATING WOUND OF THE ABDOMEN.

TREATMENT BY LAPAROTOMY.[1]

BY F. B. HARRINGTON, M.D.

Case I. Knife wound of the abdomen with protrusion of the omentum: laparotomy; recovery.

[1] Read at meeting of Surgical Section of Suffolk District Medical Society, April 3rd, 1889.

A. D., thirteen years old, came to the Massachusetts General Hospital, September 10th, 1887. He was stabbed in the abdomen with a knife, about midway between the umbilicus and pubes, and two inches to the left of the median line. The wound was about one inch in length. Through this wound protruded a mass of omentum, completely plugging it. The wound was enlarged to about double its size. This allowed an easy reduction of the omentum, and gave an opportunity to inspect the intestines lying directly beneath the incision. The omentum, when returned to the abdominal cavity, began to bleed. The constriction made by the edge of the incision had controlled the bleeding until this constriction was removed. The bleeding points were tied. No injury to the intestines was found, and nothing pointing to such injury was seen. The patient was about the ward on the eighteenth day, the wound having entirely healed.

Case II. Pistol wound of the abdomen: laparotomy; death.

W. G., a teamster, twenty-four years old, was brought to the Massachusetts General Hospital. August 6th, 1888, at about 6.30 P.M., pulse 80, temperature 100.8°, respiration 30. He had been shot one-half an hour before. Examination showed a strong, vigorous man. A bullet wound in left chest between first and second ribs, three fingers-breadth from the clavicle's sternal end. There was a bullet wound one inch below the umbilicus and two or three fingers-breadth from umbilicus in left side. There was also a bullet wound on the inner side of the femoral vessels in Scarpa's triangle. No bleeding of any account from either wound. Wounds not probed. The urine was drawn by catheter and found to be bloody, but there were no clots. Spit some blood from the throat. No cough. No pain in chest. Abdomen tender. Pain in small of back. The flanks are flat on percussion, otherwise the abdomen was tympanitic. Morphia and brandy were given.

At 8.30 the urine was more bloody. The pulse had become rapid. The patient seemed to be sinking from loss of blood. It seemed best to attempt a laparotomy. Two quarts of blood mixed with intestinal contents were evacuated. Blood and intestinal contents were flowing into the abdominal cavity freely. Three holes in the small intestine and two lacerated wounds of the intestine were sewed up with silk. The abdomen was washed out with warm water. The posterior course of the bullet was not determined. It was thought that it might have cut the ureter or have entered the kidney. The patient rallied slightly, but died at 12.20 in the morning. On autopsy it was found that the left kidney had been pierced by the bullet which had injured the intestines. There was considerable hæmorrhage into the perinephritic tissues. The abdominal cavity, upon removing the intestines, was found to be perfectly clean, notwithstanding the large amount of blood and fæces which it had contained before washing. No other intestinal wounds were found. The bullet wound of the chest passed through the apex of the lung. No wound of the intestines had been overlooked. Insufflation was not used.

CREASOTE IN CERTAIN GASTRIC DISTURBANCES.

BY JOHN A. JEFFRIES, M.D.

CREASOTE has been used and recommended in troubles of the stomach for many years, but has of late, it seems to the writer, fallen into desuetude. Yet it is an efficacious remedy in a class of common stomach troubles, which if not marked by any serious pathological changes are fraught with annoyance and distress to the patient.

A patient comes with a complaint of distress after meals and acid taste in the mouth, the belching of wind, and perhaps disturbed action of the bowels, and general discomfort or sense of weakness, is out of sorts with himself and the world, and may even suffer from irregular vomiting.

The modern specialist on the stomach passes the stomach tube after a test breakfast, and finds perhaps quantitative changes in the constituents of the gastric juice and an increase in the amount of mucus. The diagnosis may read as an increase or diminution in the acids or as simple fermentation. The treatment will begin with washing out the stomach, and in most cases, according to my experience, results in a cure.

The trouble is that though washing out the stomach is not difficult it is highly objectionable to the average patient, and in a hospital out-patient service is out of the question on the score of time.

It is desirable, therefore, to have as many strings to our bow in the shape of drugs as possible, and creasote is a good one. It was formerly used with carbolic acid in vomiting, and is thus recommended by Barthelow. Starting with Barthelow's recommendation I began the use of the two drugs combined, in vomiting, and got good results, but fearing the carbolic acid shortly left it out. From this the use of the drug was extended to the various indigestions, and it is my object to present a short analysis of the cases in which I found it useful or useless.

First, it is a good sedative in vomiting where the cause is general and uncontrollable, or unknown, and is thus mentioned in most of the books on therapeutics. Beside this it is of use in vomiting induced by fermentation, and thus comes into play in the summer gastro-intestinal trouble of infants, as the following case illustrates: —

July 2, 1887. M. K., six months; breast fed; cutting a tooth. Seized this morning with diarrhœa and vomiting, the ejected matter being almost clear water with a few flocculi. Eyes sunken, fontanel the same; abdomen drawn in; body hot, temperature in the rectum 101°, limbs cold; pulse small, rapid, could not be accurately counted.

The treatment consisted in a drop of creasote, five grains of bismuth in cinnamon water, every three hours at first, and scalded milk with brandy in ounce doses between. The milk was given as being the best food I thought the child would get. The vomiting stopped for a time after the first dose and ceased during the afternoon. On the 3rd there was less diarrhœa and no vomiting. On the 4th neither vomiting nor diarrhœa. The next day slight green diarrhœa began, but on the 9th my notes record the child as well and the tooth cut.

A score of other cases could be given where vomiting in infancy has ceased after the administration of creasote, but I have but one other which approached the rice-water ejecta of the above. Water has often been vomited, but as often questioning has shown that the infant has recently had a drink.

The diarrhœa usually coexisting in these cases has not seemed to be influenced, though promptly ceasing with the use of other drugs.

In adults the symptoms are more variable, as also the results. The following cases are selected from a number as illustrating the differences in both: —

CASE II. August 28th. Male, forty-one years, married. Complained of pain, tenderness, and stiffness in left lumbar region; pain and tenderness over the ensiform cartilage, and an "empty acid heaving;" bowels regular. No other symptoms found. Two drops of creasote were ordered three times a day in gum arabic and water.

August 31st. Stomach decidedly better; pain the same.

CASE III. September 6th. Male, forty-seven years, married. Complained of weakness of legs and indigestion; hands and legs weak; grip, right 56, left 64; anæsthesia and numbness below the knees; slight general trembling; slight but distinct Romberg's symptom; pupil reactions normal; knee-jerk the same; no tenderness of nerves. No signs in the thorax, urine normal. Distress after eating, followed by yawning, belching, and an acid taste in the mouth. The only drug given which could affect the stomach was creasote. In two days the distress and belching ceased, and the creasote was stopped. In four days the trouble came back; creasote was again given for a longer interval, and the trouble did not come back.

CASE IV. September 22nd. Female, twenty-two years, single. Seven months ago both legs began to prickle and tingle; pain in the head, and frequent nose-bleed. For the last three weeks it has been difficult to stand. Now patient appears in good condition, but will scarcely try to stand still and walks in a weak, irregular way; marked Romberg's symptom; no other symptoms; all the ordinary reflexes normal.

October 5th. Walks better; can stand with eyes closed; tongue coated, belching, head light, sour taste in the mouth. Creasote in two-drop doses three times a day.

October 11. Stomach symptoms gone. In the course of a few weeks the nerve symptom also vanished under appropriate treatment.

CASE V. August 21st. Female, forty-two years, married. Twelve years ago had typhoid fever, and has never been the same since. For two years has been in much the present state. Numbness and burning of hands and feet, hands weak; vertigo, frontal headache; pulse 80, weak; temperature 98.4°; no appetite for breakfast, sense of nausea, frequent belching, acid taste in the mouth, with yawning. Urine normal. Creasote in two-drop doses and the faradic brush.

August 25th. Gas, acid taste, and nausea gone.

Slight burning in stomach. Creasote stopped. During the next month had a return of the stomach trouble, and took creasote at her own request with a good result.

CASE VI. July 18th. Female, thirty-eight years, married. Troubled with heavy sensation in stomach after eating, acid eructations, loss of appetite, and pain along fifth and sixth left ribs and over the left triceps. Constipation; reflexes irritable. Treatment, cascara sagrada and creasote, two drops before meals.

July 25th. Wind, sour taste, and pain gone, bowels more regular.

CASE VII. December 21st. Male, thirty years, married. An epileptic. Complains of nausea and wind; no acid taste. Creasote.

January 26th. Nausea and wind gone.

CASE VIII. November 17th. Male, twenty-four years, single. Complains of heavy feeling, nausea, belching, sour taste in mouth, headache, and dizziness in the forehead. Gave creasote.

November 27th. Now only constipation and wind in stomach. Gave cascara.

December 18th. Bowels regular, no symptoms except the wind.

CASE IX. September 12th. Female, forty years, married. Numb hands, pain in the back on waking, also from pit of stomach to shoulder-blade. Wind if stomach empty, sour or at times bitter taste, tongue slightly coated, attacks ushered in by yawning. Mouth sometimes waters, but denies nausea. Constipation. In this case creasote and cascara did no good.

CASE X. October 11th. Female, married, forty-eight years. Complains of pain in head, especially over eyes, vertigo, belching, weight in stomach, nausea, and bad taste in the mouth. Gave creasote, and the symptoms vanished in the course of a week.

The above class of cases in which creasote has proved of service are mostly characterized by more or less nausea, or some of the other prodromata of vomiting, as yawning, the evolution of gas in the stomach, and an acid taste after eating. When the wind or acid taste is absent I have had more failures, and in cases like Number IX., where the wind was only between meals, no success. In some of the cases all the symptoms but the wind have vanished.

The exact nature of the morbid processes in these cases I do not know. The use of creasote was begun under the belief that the acid taste and wind pointed to fermentation, and creasote is given as a fair antiseptic. My own experiments, however, show that creasote is a much weaker germicide than ordinarily stated. Again, in certain cases the wind continued though the other symptoms vanished, showing that the symptoms were not all closely connected.

Besides its weak germicidal powers creasote possesses an astringent effect on mucous membranes which is not to be lost sight of. In the same class of cases salicylate of soda has not been of as much service in my hands.

Where a close observation of the drug is not desired, unless constipation exists, the creasote has been usually administered with bismuth in water, the bismuth in some way seeming to take the former up and make a presentable mixture.

Clinical Department.

REPORT OF A CASE OF ACUTE HÆMORRHAGIC GASTRIC ULCER.

BY C. M. HAY, M.D.,

Assistant Physician to the State Insane Asylum, Morristown, N. J., late Resident Physician at University Hospital, Philadelphia.

THE following case came under my observation on February 1, 1889, and was interesting in several respects. Mrs. T., age 23, one child, always healthy up to her present illness, normal weight 120 pounds, habits excellent, physique and general health exceptionally good. On the above date she began to have pain in the epigastrium, which she described as "boring deep, and aching," but which occasionally became more severe, and then would shoot to the back and up between her shoulder blades. This pain was not constant, and was induced by eating. On the following day she began to vomit after taking food, and attacks of pain were more frequent and severe, while a slight febrile reaction was added, which, by evening, was 102° F. Examination now revealed a normal condition of the heart and lungs. The hepatic and splenic dulness was of normal extent, and in the epigastrium, about two inches below the ensiform appendix, a circumscribed area of extreme tenderness on pressure was found. This was of the size of two silver dollars, and extended more to the right than to the left of the median line. There was no evidence of tumor, and percussion gave the ordinary gastric tympany. Examination of the remainder of the abdomen was negative, as was also that of the urine, uterus, ovaries, and menstrual functions. On the third day, after taking some milk, she had a copious hæmatemesis, losing fully ten ounces of liquid arterial blood, containing some loose coagula. This was preceded and accompanied by great pain in the abdomen, followed by nausea, and its occurrence gave relief. On the fourth day a similar hæmorrhage occurred spontaneously, the patient losing somewhat less blood, which was darker in color, and more coagulated than the first. During this time, even the smallest amount of liquid was rejected by the stomach, and considerable altered blood was passed through a single movement of the bowels, which had been obstinately constipated from the beginning of her illness. Slight pyrexia continued, with rapid and excited cardiac action. Examination of the epigastrium now revealed some enlargement of the area of tenderness, but no other symptoms. At 5 A.M., on the fifth day, on making a sudden movement of the body, she was seized with pain in the epigastrium, and in about fifteen minutes she vomited about ten ounces of unaltered blood. Fifteen minutes later I found her exhibiting signs of hæmorrhage, and there was extreme muscular weakness, ringing in the ears, complaints that "she could not see," great rapidity of the heart's action, with pain and fullness in the region of the stomach, and great mental perturbation. These symptoms were followed in a few minutes by nausea, when she suddenly partially rose up and vomited nearly a quart of dark-colored liquid blood, containing loose coagula, and fell back in syncope. Reaction occurred very slowly, and dur-

ing the ensuing week the patient continued in a state of extreme weakness, with considerable anæmic fever, attended by thirst, dimness of vision, murmurs at the cardiac orifices and great vessels, and all the other subjective and objective signs of great anæmia. Blood was again found on three occasions in the stools, and small quantities of coffee-ground material were vomited for several days, while the epigastric pain and tenderness remained the same. From this time the patient slowly improved, and by February 15th had gained blood and strength; pain and tenderness were somewhat less, and she had only occasional attacks of vomiting, while the fever had practically disappeared. By February 28th light liquids could be retained, although there was a decided tendency towards emesis. At this point in the case it was very interesting to observe the gradual, progressive diminution of the area of tenderness, with the corresponding lessening of pain. From this time the patient improved more rapidly.

The case was complicated by herpetic tonsillitis on March 3rd, which, however, subsided quickly in three days. On March 20th light, digestible solids were first allowed, and on the 27th she was allowed to sit up in a chair for the first time. At this time her pain was entirely gone, and the area of tenderness, which had been slowly getting smaller and smaller, was now a mere point, with difficulty found by the finger. The patient (who had lost twenty-five pounds in weight) now gained rapidly, until by April 20th her weight was one hundred and fifteen pounds, with no return of any previous symptoms, while her tongue, which had been at first coated, and, lately, fissured and flabby, was again normal in appearance. Examination failed to reveal any tenderness in the epigastrium, and she was permitted to resume her ordinary duties.

The treatment of this case consisted, during the period of the hæmorrhages, in full doses of morphia and ergotine, hypodermically, small pieces of ice by the mouth, and an ice bag over the epigastrium at the time of the largest hæmorrhage. During the following twelve days no food was allowed by the mouth, and nutritious enemata were exclusively relied upon to support the patient. Small quantities of ice, sufficient to allay thirst, were given by the mouth. For the next ten days small amounts of diluted milk and animal broths, with the enemata, constituted her sole diet. During this time she also received a pill of nitrate of silver, in combination with the extract of opium. On two occasions, when emesis threatened, all food was stopped until the stomach was again entirely retentive. Rectal injections were discontinued on February 28th, and Blaud's pill was then added to her treatment, while a liquid diet was enforced until March 20th, when all local symptoms disappeared, and murmurs were no longer heard over the præcordia.

The diagnosis of this case seems to be very clear. The general blood conditions which at times are causes of such hæmorrhages can be excluded from this case by the previously healthy condition of the patient and by her family history; while the normal condition throughout the case of lungs, liver, uterus, and spleen proves the absence of disease of any of these organs as a causative factor. The course and termination of the case exclude aneurism or cancer, while, with the absence of ascites, obstruction to the portal circulation or vein cannot be considered. The symptoms clearly point to a local gastric lesion, and they were confirmed by physical examination of the epigastrium. Traumatism in all its forms can be excluded, as can also disease of the gastric blood-vessels, varices of the veins, and passive congestion of the stomach, by the age of the patient and the healthy condition of the circulatory system throughout the body; while, as ulcer is by far the most frequent cause of such massive hæmorrhages from the stomach, it may be safely assumed that such was the lesion in this patient. The case is interesting from its acute commencement, the size and number of the resulting hæmorrhages, its definite course and termination by recovery, and also from the standpoint of etiology and treatment. It is comparatively rare that we have an opportunity of seeing a gastric ulcer develop in the way that this one did. That the ulcer was not of the chronic form, which had been previously latent, is sufficiently proved by the perfect health which she enjoyed up to the time of the present illness, and also by the perfect recovery which the patient has since made. The rapidity of its formation and the appearance of all the symptoms is worthy of note, the first hæmorrhage occurring just three days after the first symptoms of gastric trouble appeared, while the size of the hæmorrhages proved nearly fatal. The manner in which the patient rallied and slowly recovered; the gradual disappearance of the epigastric pain and tenderness, together with her present good health and gain in weight, seem to indicate the complete healing of the ulcer. Why this woman should have had a gastric ulcer I cannot conjecture. She was under the operation of none of the ordinary causes. Her age, sex, and the fact that she habitually wore tight corsets are all the predisposing causes that I have been able to discover. Embolism or thrombosis of one of the gastric vessels in the posterior wall of the stomach would perhaps best account for the symptoms, but there is no organic valvular disease of the heart or any other discoverable cause of such an occurrence. In conclusion, I may say that it would appear that this case was not of the chronic variety of gastric ulcer, but that it was that rarer, acute, hæmorrhagic form, which luckily did not terminate by fatal hæmorrhage or perforation, and did not become chronic, but rapidly healed.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

GEORGE H. MONKS, M.D., SECRETARY.

MEETING Wednesday evening, April 3rd, 1889. DR. E. H. BRADFORD in the chair.

DR. ROYAL WHITMAN showed patients illustrating his

TREATMENT OF FLAT-FOOT,

and spoke as follows: —

"The treatment of the cases of flat-foot which have come under my observation has been conducted on the following principles: —

The affection is the result of overstrain, and is essentially a dislocation of the bones of the foot, with the usual accompaniments of a dislocation in varying degree. Thus muscular spasm, contraction, atrophy, deformities of bones, etc., are considered as results and not as causes. The remedy must therefore be (1) in a reduction of the dislocation; (2) in supporting the foot in its corrected position by a brace; when, with suitable exercises, and by an avoidance of the causes which produced the affection, the weakened, stretched, and displaced muscles and ligaments may regain their strength, and a cure ultimately result.

One or two points in the above are considered of particular importance. 1st, that flat-foot is the result of overstrain. The feet, as any other part of the body, may be essentially weak, but, unlike other parts, they are subjected to constant weight and strain under unfavorable mechanical conditions. 1st, because they are compressed in improper shoes; 2nd, because of the custom of turning out the toes to an excessive degree in walking and standing, — a position which throws the greatest strain on the weakest part. It is of the utmost importance, both in the prevention and treatment of flat-foot, that a proper walk should be insisted upon; that the feet when in use should be nearly or quite parallel to each other, in order that the weight of the body may be thrown on and over the toes, and not inside them. Thus each correct step may be made an exercise to strengthen a weak foot, while each improper one has a tendency to aggravate the existing deformity. The brace which has been used exclusively during the past year has already been described; theoretically it has the merits of accuracy of adjustment, as it is in every case moulded on a cast of the foot in its corrected position; of simplicity and inoffensiveness (as its presence is not apparent); of being equally applicable to all cases, in any class of society or grade of intelligence, and that it does not interfere with the normal movements of the foot. Practically its value has been proved in a very large number of cases.

It is perhaps unnecessary to remind you that flat-foot is often a very painful and disabling affection, and that it is important to recognize it in the early stages, before permanent changes have taken place. Its nature recognized, I know of no affection where the results of treatment are so immediate and satisfactory. The more severe the symptoms, the more rapid and efficient the remedy."

The Chairman spoke in the highest terms of Dr. Whitman's method of treatment, and declared that he had often had the opportunity of observing its good results.

Dr. F. B. Harrington said: I consider Dr. Whitman's treatment a very valuable and marked advance in the treatment of flat-foot. The case which I sent to Dr. Whitman was a very severe one, and the improvement shown is remarkable. The rectifying the deformity under ether and the fixation of the foot in a corrected position seems to me the most essential part of the treatment of the severe cases. I have found the study of these cases extremely interesting, and am more and more convinced of the value of Dr. Whitman's treatment.

Dr. Whitman called attention to the frequency of flat-foot, and to the fact that many of such cases are long treated for rheumatism without relief, when a properly applied plate would relieve them at once. He regretted that all medical men were not a little more careful in diagnosis.

Dr. A. T. Cabot also spoke of the importance of the early recognition of the true condition; and called attention to the pain running up the calf, and the tenderness particularly over the inner arch as being aids in diagnosis where the deformity is not marked. In just such cases a good plate would give great relief.

The Chairman related the case of a young man who had been told by a physician that he had disease of the spinal cord; but it was simply a case of flat-foot, which was some time later relieved at once by plates like those described by Dr. Whitman.

In reply to a question Dr. Whitman explained how the mould of the foot was taken. The patient sits in a chair and rests his foot upon its outer border in a box filled with soft plaster, which is placed upon another chair. The plaster is built up about the foot to its middle line. The inner (now upper) side of the foot is then covered with plaster, and the mould is thus made of two lateral halves. A cast of the toes is unimportant, and that part of the foot can be neglected, as it has nothing whatever to do with the shape of the plate to be fitted.

Dr. A. T. Cabot reported

TWO CASES OF LAPAROTOMY FOR PENETRATING WOUNDS OF THE ABDOMEN,[1]

the one case being a stab with a jack-knife, and the other an accidental pistol-shot wound.

Dr. H. L. Burrell read a communication on

A CONSIDERATION OF THE USES OF GASES IN PENETRATING WOUNDS OF THE ABDOMEN,[2]

which he illustrated by extremely interesting experiments on dogs, using hydrogen, oxygen, and air to demonstrate the presence of gastro-intestinal injuries.

Dr. F. B. Harrington reported

TWO CASES OF PENETRATING WOUND OF THE ABDOMEN; TREATMENT BY LAPAROTOMY.[3]

The Chairman related a case of his own, where the patient was stabbed in the abdomen. The wound was enlarged, but the intestine was found to be only bruised, though the bleeding was considerable. The peritoneum was washed out with hot water and the wound sewed up. The patient died of septicæmia. The fact that the case was a medico-legal one somewhat complicated affairs. The decision given was that the infection was probably due to the assailant's knife rather than to the surgical operation, since in the latter efforts had been made to keep everything aseptic.

Dr. M. H. Richardson called to mind the fatality which statistics give to cases of penetrating wounds of the abdomen. He thought that in the war the mortality rate was about 90 per cent. He could not, however, express much confidence in the insufflation method, so far as he could judge from his reading on the subject and from his own somewhat limited experience. It had always seemed to him that inflation of the bowels would interfere

[1] See page 81 of this Journal.
[2] See page 77 of this Journal.
[3] See page 83 of this Journal.

with any subsequent examination in case laparotomy was done, though perhaps this difficulty was an imaginary one. He felt, however, quite sure that the escape of fæces through an intestinal wound into the peritoneal cavity was a real danger, and he had seen it happen, and that in his only case. His idea seemed to be that if a laparotomy is to be done any way, there is no use of insufflation to begin with. The method may, however, be of some use after all apparent perforations have been sewn up, to make sure that all have been found.

DR. H. W. CUSHING said: I have been exceedingly interested in Dr. Burrell's experiments; and they have been to me a very instructive and valuable demonstration of this subject. Insufflation has apparently two rôles: first, to indicate the existence of an intestinal perforation; second, to locate it. In estimating its value, penetrating wounds of the abdomen must be considered in two classes: stab wounds, and bullet wounds. In stab wounds the possibility of the hollow abdominal viscera escaping injury is considerable. If there is no perforation one of the chief indications for an exploratory laparotomy is absent; and the victim is spared a serious, at times dangerous, operation. Here, therefore, insufflation as a diagnostic aid is of great value; and, as a direct means of recognizing intestinal laceration, of vital importance to the patient. With bullet wounds, on the contrary, the possibility of the intestine escaping uninjured is very small. In no case, according to my own observation, has the intestine escaped when the ball has entered the abdominal cavity, and the laceration in some instances has been to a fearful extent. Hence, in this class, the value of insufflation as an agent to indicate perforation is not of so great importance. The surgeon will probably, unless he has some strong indication to the contrary, open the abdomen at once in every case. Under such circumstances, however, as a rapid means of locating the site of the perforation it has proved a most efficient aid, and of equal importance is its power to demonstrate to the surgeon the important fact that he has closed all the wounds. It unquestionably shortens these operations and renders unnecessary the extensive, prolonged exploration and manipulation of the abdominal viscera so productive of excessive shock. In some of Dr. Burrell's experiments I am confident that some of the wounds would have remained undiscovered without the aid of insufflation. In regard to the technique, the method of using air which he recommends is much more satisfactory and practical than the "Senn" method. It requires no especial preparation or complicated apparatus. The demonstration of its escape from the abdominal wound is unnecessary: it consumes time, and is occasionally difficult, if not impossible, even where perforations exist. The practical points for the surgeon are: The distention of the abdomen, without which, of course, there can be no insufflation. When this has been accomplished his efforts must be to ascertain if the air is in the peritoneal cavity as well as in the intestine. The surest and most rapid way to demonstrate this is to slightly nick the peritoneum. The hiss of the escaping air at once shows its site. Also the bubbling of fluids in the wound. If this does not occur the air is confined to the intestinal canal, which is in all probability intact. In none of the cases I have seen has the distention of the intestines been an impediment to the operator, or prolonged the operation. Extreme distention is not necessary to demonstrate the perforations, and the subsequent rapid collapse of the gut prevents any such complication.

DR. J. R. CHADWICK was inclined to think that Senn's method was not reliable before laparotomy was done; but that it might be of great use, when the abdomen was laid open, in finding the perforations and in making sure that those already stitched were tight. He thought the introduction of an antiseptic fluid into the abdominal cavity would be of advantage, not only to float up the intestines, but to detect hæmorrhage by the tingeing of the fluid as it ran out.

DR. HARRINGTON said that he should be inclined to do a laparotomy in most cases of penetrating wounds, and if insufflation were used it would only be after the abdomen was opened.

THE CHAIRMAN wished then to know if it was the sense of the meeting that in all fresh cases of penetrating wounds of the abdomen laparotomy should be done.

Several gentlemen present objected to so broad a statement, and were inclined to think that in many fresh cases no exploration whatever should be made.

EXHIBITION OF SPECIMENS.

Two specimens sent by DR. JOHN HOMANS were then shown. One was a fibroid of the uterus, weighing fifteen pounds, which was removed on March 28th. Present condition of patient very satisfactory.

The other specimen was two tubes and ovaries, which had been with the greatest possible difficulty "dug out" of the pelvis of a single woman of twenty-five, by laparotomy.

THE CHAIRMAN showed an enlarged prepatellar bursa, recently removed by him; also a sarcoma of the buttock.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

SIXTH ANNUAL MEETING, BOSTON.

Second Day — Tuesday, June 25, 1889.[1]

DR. R. G. CURTIN, of Philadelphia, read a paper on

THE CLIMATOLOGY OF HÆMOPTYSIS IN CHRONIC LUNG DISEASES FROM AN ETIOLOGICAL AND THERAPEUTIC STANDPOINT.

In glancing over the field we are confronted by so many and varied influences of climate at work, both in causing and preventing hæmoptysis, that the subject will be best considered by taking up each factor separately, and discussing it as to its bearings, and the symptoms under consideration, and its debilitating result. If the chronic lung disease is removed by climate, this, a mere symptom, is necessarily ended. We must be careful not to magnify hæmoptysis, a mere symptom, into the formation of a distinct disease.

First, I will give a brief summary of the more immediate causes of bleeding from the lungs in chronic pulmonary diseases. We are liable to hæmorrhages from the lungs, caused —

[1] Concluded from page 70.

1st. By capillary congestion of the bronchial mucous membrane.

2nd. By congestion of the parenchyma of the lungs.

3rd. From erosion of blood-vessels from the ulcerative process.

4th. Pr. disposition from condition of the blood, as in hæmophilia.

5th. Atmospheric influences.

6th. Nervous influences.

The hæmorrhage may be bronchial, capillary, arterial, or venous. The principal climatic conditions affecting hæmoptysis are included under the following heads: Heat, moisture, and altitude, asepsis, rarefaction of air.

For syphilitic phthisis, denser air and increased arterial pressure are, I believe, beneficial in a curative way, as shown in my paper read before this society two years ago in Baltimore.

In cold air the tissues and blood-vessels contract, especially the capillaries, driving the blood from the periphery towards the centre, but not with sufficient force to cause a dangerous internal congestion. It has a beneficial effect upon the appetite, and favors assimilation and strengthens the nervous system, imparting internal vigor.

Warm air. The effect of continued warm air is to cause a debilitated and relaxed condition of the tissues and blood-vessels, which would in itself tend to the exudation of blood from the diseased tissue of the lungs.

Sunshine. A patient living in the crowded city, shut between walls, and with perhaps many cloudy days, is subject to depressing influences. Remove a person so situated to a place with much sunshine and to out-door life and he will be benefited by such a change.

Each case should be carefully studied in all its phases before deciding upon a change of residence.

Dr. Edward O. Otis, of Boston, read a paper on

PSYCHOLOGICAL FACTORS IN SELECTING A CLIMATE FOR INVALIDS.

To best adapt the remedy, be it climatic or medicinal, to the case in hand, the psychological side of the question, as well as the physiological and path ological, must have its due consideration. From a psychological point of view we ought, it seems to me, to consider, 1st, the temperament and mental disposition. 2nd. Previous habits and mode of life. 3rd. The amount of physical activity the patient has been accustomed to. 4th. The matter of domestic ties. 5th. Is the patient to be placed in an environment of invalidism, where he will have his malady suggested to him continually by seeing others sick and dying with it about him? 6th. The age of the individual.

An analysis of that bundle of peculiarities which constitutes what we call one's temperament is often an easy matter, yet it ought to have careful study when a change of climate is under advisement. One's natural disposition, to a great extent, shapes his way of life and determines his habits. The tastes of the patient play a not insignificant rôle in his physical condition and well-being, and a disregard of them may vitiate the good results hoped for by a climatic change. The matter of length of residence in the climate selected depends upon many considerations, principally upon the kind, character, and extent of the disease.

Of course, individuals vary much in the manner of adapting themselves to circumstances. Where, however, the longing for the dear ones at home is extreme and continual, a spot nearer home, with a climate less intrinsically ideal for the disease, but affording easy communication with home and friends, may accomplish better results, as, for instance, Sharon in this State or Lakewood in New Jersey.

An environment of invalidism is almost unavoidable in most of the well-known health resorts. Besides these injurious influences, in other respects mainly it is in many ways unfavorable. To be sure, climate in a way makes us all akin, but in thinking of and helping an unfortunate brother our mind is diverted from our own misery to our benefit. On the other hand, however, to be amongst many others of the same disease as our own in its varying degrees and phases must often react unfavorably on our own disease. Our disease is kept constantly before us, and I have noticed that the majority of invalids seem morbidly eager to discuss their own symptoms and watch and note the simplest variations in their own condition. I am convinced that this seems to be a serious objection to such health resorts as are exclusively devoted to invalids and to those suffering from the same disease. Is not the objection all the greater to sanitaria where many invalids are under one roof, particularly if the disease is phthisis?

Certain it is that the influence of an environment of strong health, and, secondly, cheerful companionship about an invalid is more conducive to rapid improvement than one of invalids, with the constant reminder of the nearness of death. Lastly, the age of the patient as a psychological factor is important in considering the effect of the change to be made. It is true that "hope springs eternal in the human breast," but it springs more exuberantly in the young breast, and we can count more upon this universal element in human nature in the young than in the middle-aged and older. The adaptability of the young to change and new conditions is great, and with them we can venture on more radical changes than with the older, who are bound by long association to friends and places. Ours is a materially scientific age, and medicine feels the influence of the time and age, but there is a mental as well as a physical side to the human entity, and he is the wise physician who duly weighs in his considerations and decisions the influences of the spiritual side as well as that of the physical.

Dr. Griffith E. Abbott, Bryn Mawr, Pa., read a paper on

THE BASIS OF RATIONAL CLIMATO-THERAPY.

We should guard against ascribing qualities to climate as peculiarly characteristic, which are disturbances either incident to acclimatization or are the result of our short-sightedness, or the patient's carelessness.

Medical climate resolves itself into a microscopically pure air, equability of temperature, sufficient warmth and humidity, abundance of sunshine, protection from harmful air, air currents, and the presence of such arrangements and regulations as will enable the patient to lead a healthful life — a

climate in which much outdoor exercise can be taken.

In selecting a place for sojourn, we should consider the conditions and exigencies of the patient, and also his local relations. The patient not appreciating the mode and circumstances of life among the inhabitants of a place, can only enjoy the climate, and the local and social influences, such valued adjuncts, are lost.

DR. ISAAC HULL PLATT, of Lakewood, N. J., read a paper on

THE PINE BELT OF NEW JERSEY, A REGION OF SANDY SOIL AND PINE FORESTS.

It was my intention at this meeting of the association to present a paper in consideration of the subject of soil dryness and pine forests with reference to pulmonary diseases, but I have found that it requires an amount of research for which I have not yet had time, and I shall for the present content myself with briefly calling attention to a region where these conditions prevail And it is of special importance by reason of its nearness to our great Eastern cities.

New Jersey, though a small State, presents considerable diversity in its topographical and geological features. In the northern part it is traversed by the Kittatinny Mountains, a range of hills, part of the great Appalachian chain. The central portion is characterized by red sandstone with trap ledges, while the southern and eastern portions of the State consist of level country with a sandy soil and pine forests. Along the shore there are long stretches of shallow bays and tide marshes, and in the extreme southern portion many little rivers with meadows lying along their banks. But running through the interior of the State there is a strip of land about sixty miles in length, and from eight to twenty miles in breadth, reaching from a few miles south of Freehold in Monmouth county almost to Vineland in Cumberland county. This comprises the inland portion of the sandy tract, including the extreme southern portion of which I have spoken. This region has long enjoyed a local reputation for healthfulness, and some portions have been mainly settled by people who have gone there for that reason. Extensive pine forests are a prominent feature of this region. They have been in some places cut off or burned, and in some spots are replaced by oak and other deciduous trees. But there are enough left to make it prominently a pine region.

The importance of soil dryness as a climatic element in prophylaxis of phthisis is too well known to need rehearsal. According to the reports of the State Board of Health, which are carefully prepared, and are, I believe, as accurate as any statistics of the kind, the whole number of deaths in the townships of Howell, Jackson, Manchester, Southampton, Woodland, Shamong, Winslow, and Hammonton, during the six years from 1883 to 1888 inclusive, was 1057, or an average of 12.16 per thousand a year. The number of deaths from consumption was 141, or 1.6 per thousand a year. In the State of New Jersey, during the same period, the total mortality was 18.65 per thousand, and the mortality from consumption 2.53 per thousand. Or, throwing out towns of over 5000 inhabitants, the total mortality was 15.07 per thousand, and the mortality from consumption 2.12. The comparatively low mortality from consumption will be rendered more striking if attention is called to the nature of the population of the region. The inhabitants may nearly all be included in two classes, — the descendants of the original settlers, and those who have settled themselves in this region because of its supposed healthfulness.

At some future time I hope to be able to give something more definite in regard to the results of treatment in this region. I can only say at present that it is very exceptional for a patient with bronchial or pulmonary disease not to derive some benefit, greater or less, from the change, and in many cases the benefit has seemed remarkable.

DR. ALBERT L. GIHON read a paper on

OCEAN THERAPY.

A paper by DR. S. H. CHAPMAN, of New Haven, entitled

NOTES ON THE PRESENCE OF DIPHTHERIA AT HIGH ALTITUDES,

was read by title.

In August last, during an excursion to Franz-Josefshöhe, 9500 feet high, into the heart of the great glacial region called Gross-Glockner, in eastern Austrian Tyrol, my guide related circumstances of an epidemic occurring during the early spring of the preceding year in his native village of Heiliegenblut, which aroused my curiosity. On my return to the village of Heiliegenblut, which is the starting point of all excursions into that region of snow, I made inquiries of the factota of the village, of the hostess of the inn, who is the chief personage in all the Tyrolean villages, the postmaster, and telegraph operator. Their statements verified and amplified those made by my guide. Upon my return to Lienz I called upon the only physician of the town, who is also the military surgeon in charge of the government hospital for the district of Lienz. He gave me a description of his share in the epidemic. At the end of a week of the plague, as the peasants call it, notwithstanding the danger attending the journey, a messenger was despatched for a doctor, who, after a toilsome journey of two days, reached the village. The physician pronounced it diphtheria of virulent type. His treatment consisted of insufflation of sulphur and poultices on the neck. His treatment was so unsuccessful that the peasants had recourse to charms, prayers in the church night and day, and to the aid of an aged peasant, whose treatment saved more lives than the doctor's. It consisted of an ointment of sweet cream and powdered gunpowder rubbed in on the outside of the throat, and inside as well. The physician's statistics were sixty cases, forty-eight deaths. The disease was entirely unknown to the oldest inhabitant. The description of the disease was somewhat limited, namely, the crisis was reached in from two to three days; besides the swelling of the glands and inflammation of the throat, there was even severe hemorrhage from the nose preceding collapse. There was no attempt made to isolate cases. I have related this incident to the society because of the interest attached to the extent of the development of diphtheria at so high and isolated a spot.

It seems possible to draw the following conclusions: That the latent germ was stimulated to active development in the steaming, fermenting atmosphere of a stable; that its virulence was rather increased than diminished by the high altitude and by the rarity and low temperature of the air; that propagation from house to house was not hindered by the passage of the germ through a rarefied air of very low temperature; that the effect of the germ became less and less violent as time elapsed; that the history of this epidemic seemed to show that there took place a special culture of the specific microbe in defined quantity; that all the cases were attacked by the originally developed microbe, and that under the wearing action of it and atmospheric conditions its virulence became more and more attenuated, until it again passed into a harmless period of existence, or became secluded in localities unpropitious for further development.

NEW YORK ACADEMY OF MEDICINE.

Stated meeting, May 20, 1889.

Dr. W. Gilman Thompson read a paper on

THE THERAPEUTIC VALUE OF OXYGEN INHALATION, WITH EXHIBITION OF ANIMALS UNDER HIGH PRESSURE OF OXYGEN.

He said that he had been impressed by the fact that while some observers claimed the most brilliant therapeutical results from the use of this agent, others held that it was of but little, if any, practical value, and still others used it in such a vague way that no reliance could be placed upon the results obtained. As was well known, the ordinary pressure of the atmosphere was fifteen pounds to the square inch; of this amount three pounds was exerted by the oxygen and twelve pounds by the nitrogen. The first question that arose was, Does an increased pressure really cause more oxygen to be absorbed? Under any circumstances the hæmoglobin of the blood could take up but 2½ per cent. more of oxygen, and it was also a fact that it could not enter the plasma to any extent.

In most of the older text-books it was stated that animals could not live in pure oxygen, the system being burned up, as it were, by the increased tissue changes excited by it. This idea, however, was an entire mistake, as was conclusively demonstrated by Dr. Andrew H. Smith in the series of experiments made by him in 1869 and 1870. Having referred to some of the symptoms produced in the human subject by the inhalation of oxygen, he said that very little additional oxygen could be made to enter the system by any amount of pressure short of that which would result in injurious effects.

He then exhibited the apparatus which he had had constructed for the purpose of exposing animals to high pressures of oxygen. It consisted of a strong iron drum, or chamber, with glass-covered openings at each end, in which the animal to be experimented upon was to be placed; and to this oxygen was supplied at any degree of pressure desired, from a cylinder containing the gas at a pressure of 225 pounds to the square inch. Two animals, a monkey and a pigeon, which had been subjected for one hour to a pressure of 30 pounds to the square inch, in oxygen, in addition to the ordinary pressure of the atmosphere, 15 pounds, were taken from the chamber in an apparently perfectly normal condition.

Dr. Thompson next proceeded to make a detailed report of a number of experiments he had made upon animals which were in a normal condition at the time the experiments were commenced, the animals being dogs, cats, pigs, monkeys, guinea-pigs, pigeons, and alligators. It was found that all the animals could exist comfortably in the oxygen until a pressure exceeding three atmospheres was reached. The higher the order of the animal experimented upon the more quickly it became affected. As a rule, a decided fall of temperature, often amounting to from four to six degrees Fahr., was observed; and only in cold-blooded animals was there any rise of temperature. This marked decrease in temperature he did not believe was to be attributed at all to the effects of the oxygen, but to the profound disturbances caused in the system by the high pressure employed. If, as was claimed by the older writers, a greatly increased tissue metamorphosis was caused by oxygen, this would unquestionably be accompanied by an increase, and not a diminution, of the body temperature. In a paper read before the Royal Academy of Madrid, Valenzuela reported similar results. In animals subjected to oxygen in a pneumatic chamber under increased pressure he found that the temperature was reduced several degrees, and rabbits in which septicæmia had been artificially produced had the temperature reduced to normal.

In such of the animals as died as a result of subjection to high pressure of oxygen, or were killed after removal from such exposure to high pressure, Dr. Thompson found pulmonary engorgement and dilatation of the right heart. The convulsions which usually resulted when the pressure was carried to a high point were, as a rule, quickly controlled by blowing off five pounds of pressure. He also tried the experiment of subjecting animals on alternate days to high pressure of oxygen and to compressed air, the series of observations being maintained for a considerable period. The cause of the convulsions produced by exposure to high pressure of oxygen, he said, was as yet undecided, but he was inclined to attribute it to the difference in the diffusion of oxygen and carbon dioxide under different degrees of pressure.

A second series of experiments was performed upon animals in which abnormal respiration had been induced. Dyspnœa might be classified as being due.

(1.) To abnormal conditions of the air.
(2.) To abnormal conditions of the blood.
(3.) To obstructed circulation.
(4.) To diminished surface for aeration.
(5.) To neurotic influences.

In a cat in which dyspnœa was produced by cutting both vagi instant relief was afforded by exposing the animal to oxygen; while, on the other hand, the dyspnœa was increased by compressed air.

In the second experiment a canula was introduced into the pleura of a dog. In the third pulmonary congestion was caused in a cat by injecting

a solution of nitrate of silver into the lung-tissue, and the dyspnœa resulting therefrom was greatly relieved by oxygen. In other experiments the lung was compressed by injecting considerable quantities of water into the pleura, and in still others the animals were bled to the extent of many ounces. The results of these experiments, he said, went to show that oxygen does aid in a moderate degree certain types of dyspnœa.

In considering the therapeutic value of oxygen it was to be borne in mind that it was a physical impossibility to take oxygen into the blood. This agent had been employed, first, as curative in certain general diseases, more particularly of the blood and circulation, and, second, as a palliative in dyspnœa due to various conditions. Of late its use had increased to such an extent that two or three hundred thousand gallons of it were now consumed annually in New York city alone. Among the affections, beside dyspnœa, in which it was claimed that it had proved of benefit were anæmia, chlorosis, croup, chronic gastric catarrh, migraine, cholera, and opium narcosis. It was used more generally in this country and on the continent of Europe than in England, and in Paris a supply was kept on hand at the stations along the Seine for use in resuscitating persons rescued from the river, and also at some of the police and fire stations.

In anæmia, chlorosis, etc., Dr. Thompson said he could see but little advantage over good fresh air in giving diluted inhalations of oxygen two or three times a day, as was the usual practice in such affections. It did not seem rational to him to expect that sufficient oxygen could enter the system under these circumstances to produce anything but a temporary effect at the best. In cases of blood-poisoning, again, he had failed to see any benefit derived from oxygen. In certain subjective cases of dyspnœa it no doubt gave relief, but in a case of poisoning by illuminating gas which he had seen at the Presbyterian Hospital it was kept up for nearly three days without producing any effect either on the rate of breathing or on the cyanosis present. In cardiac diseases his experience with oxygen had not been encouraging, and he referred particularly to a case of malignant endocarditis in which it proved of no avail in relieving the dyspnœa. In certain cases of asthma and of anæmic dyspnœa, however, it gave decided relief, and in such he believed it was an invaluable therapeutic agent; though not, of course, curative.

DISCUSSION.

DR. J. WEST ROOSEVELT spoke of the relation of the amount of oxygen inhaled to that absorbed, and said that while the amount which entered the plasma or the hæmoglobin of the blood was comparatively small, he believed it was sufficient to cause appreciable results in many instances. As to the therapeutic value of oxygen, in the neurotic form of dyspsnœa we had a condition in which the mere act of inhalation and the engaging of the attention of the patient would often have a beneficial effect. In anæmia he had met with fairly good results with oxygen, though the patients improved less rapidly than under the use of iron. If in any case the hæmoglobin was not saturated, an improvement showed that more oxygen was carried than under ordinary circumstances. On the whole, oxygen had proved of considerable value in his experience, and in cases of diminished surface for aeration he had seen cyanosis decidedly improved under its use.

DR. GEORGE L. PEABODY said that so many circumstances were involved in estimating the value of an agent like oxygen that it was difficult to arrive at positive conclusions respecting it. Thus, when it was not the only therapeutic agent employed, it was impossible to say just how much benefit was derived from it; and this difficulty was further increased in diseases which naturally tend to recovery. The question of the utility of oxygen he believed was still undecided. When the idea of its administration first occupied the profession it was the practice to give internally chemical substances, like chlorate of potassium, for instance, which were known to be rich in oxygen. It was far from certain, however, whether they yielded up their oxygen on entering the body; and even if this were so it seemed probable that the resulting compounds might have a more or less caustic effect upon the tissues. This was apparently the case with osmic acid.

Later it had become the practice to give oxygen by inhalation. Under such circumstances its absorption depended probably on the amount of hæmoglobin in the blood at the time the oxygen was administered; but in any event the amount absorbed was unquestionably small. There was good reason to doubt the alleged efficiency of this agent, and personally he believed that, as a rule, quite as much relief could be obtained from ordinary fresh air. It might be tried, however, in maladies attended with dyspnœa, in which the blood is unchanged, such as pneumonia, emphysema, croup, and asphyxia from toxic gases; although, as Dr. Thompson had correctly stated, in poisoning from illuminating gas it had failed to give relief. There was no justification, he thought, for the extensive use of oxygen in general diseases, such as anæmia, chlorosis, lithæmia, etc. Although the pulmonary gymnastics of the inhalations might have a beneficial effect in certain instances, there were other remedies which could be employed with much greater advantage. That the use of oxygen hastened recovery in such cases he did not believe, and the recognized facts of physiology were certainly at variance with any such conclusion.

DR. BEVERLY ROBINSON said that he differed entirely from Dr. Peabody, and that his clinical experience afforded the most conclusive proof of the immediate and marked relief resulting in many conditions from the use of pure oxygen. In anæmia he had found that those cases were most improved in which oxygen was used in connection with iron. The purity of the gas was a point of the utmost importance, and he said that one make of gas which he had formerly employed gave such poor results that he ceased to use it. There was a gas now manufactured in New York which was said to contain a certain proportion of nitrogen monoxide, from which he had obtained very satisfactory results; and it was worthy of note that Brown-Séquard had expressed the opinion that nitrogen was of great service in preventing the irritating and intensely exciting effects of oxygen alone.

In albuminuria connected with atrophic nephritis he had found the general nutrition of the patient notably improved under the use of oxygen; the digestive and assimilative powers being greatly assisted by it. Even in phthisis, while it did not have a curative effect, it might prove beneficial. In the first place, the inhalations caused the patient to thoroughly expand his lungs; secondly, oxygen was itself an antiseptic, and therefore indicated; and, thirdly, it had the effect of improving the general nutrition. As had been well said, oxygen was really prescribed every time that a patient was sent to the mountains, to Southern California, to the plains, or on a sea voyage. But there were many cases in which it was impossible to send patients away, and he believed it was possible to stimulate the hæmoglobin in the blood, and thus to enable the patient who remained at home to carry more oxygen. In the use of oxygen he did not think we should be guided so much by experimental researches as by practical clinical experience. Without considering the curative effects of the remedy, there were certainly many cases where the last hours of patients could be rendered much more comfortable by resorting to its use.

Dr. Walter Mendelson said that he felt compelled to agree with Dr. Peabody from what he had observed of the effects of oxygen. In anæmia it was true that he had seen some quite marked results under its use; but he did not believe that the benefit was in reality due to this agent. He cited the case of an old man who inhaled ten gallons of oxygen a day, and became greatly improved. This improvement, however, he was convinced was due to the systematic expansion of the lungs and to the moral effect of the knowledge that something out of the common was being done for him. In cases of dyspnœa from various causes he had seen more or less relief afforded by oxygen; yet all the patients died. Still, as Dr. Robinson had said, it was possible that their last moments were rendered more comfortable by the inhalations.

Dr. Mary Putnam Jacobi said that the amount of oxygen which the hæmoglobin carries varied under different circumstances. In asphyxia of various kinds the physiological capacity of the blood remained the same, and therefore the indication was to administer oxygen. The correctness of this had also been shown by clinical experience. In anæmia, and especially chloro-anæmia, on the other hand, the hæmoglobin was diminished. The condition was precisely the reverse from that met with in asphyxia, and we could not cause a much greater amount of oxygen to be absorbed.

Dr. Andrew H. Smith said he was gratified to find that the work which he did twenty years ago for the most part still remained good. At that time he had demonstrated that animals could live perfectly well for four days in pure oxygen; care being taken to remove the effete products of respiration. It was his opinion that under ordinary conditions the blood is not fully saturated with oxygen, and that the point of saturation corresponds with the physical demand. This allowed a pretty wide margin, and it was perhaps within this margin that a considerable amount of oxygen could be absorbed by the blood. Thus, the demand for oxygen was much greater in athletes engaged in violent exercise than in individuals making but little physical exertion. Therapeutically he had seen the greatest benefit derived from oxygen in catarrhal conditions of the air-passages, such as was met with in suffocative bronchitis. In such cases he was at a loss how to explain the relief afforded by the oxygen, unless it was a fact that under these conditions the blood did not take up as much oxygen as the system required. When pneumonia was present so many conditions were brought into play that the matter was much more complex and the relief afforded by oxygen very uncertain. Dr. Smith also said he had used oxygen with satisfactory results in opium poisoning.

Dr. Thompson, in closing the discussion, said that convulsions were produced in the animals experimented upon by the rapid increase of the pressure, and that such convulsions were quickly relieved by the rapid withdrawal of a portion of the pressure. He could not agree with Dr. Smith in his opinion regarding the saturation of the blood with oxygen, since he thought there could be no question that even under ordinary conditions the hæmoglobin was practically saturated with oxygen. In reply to Dr. Roosevelt he said that many individuals suffered from dyspnœa whose blood contained more oxygen than that of those with anæmia or suffering from hæmorrhages. Dr. Robinson was certainly mistaken in attributing any irritating effects to oxygen. Pure oxygen had no irritating effects whatever, as had been repeatedly demonstrated. It produced no burning up of the tissues, as had been formerly supposed, and he could see no advantage over ordinary air in the nitrogen monoxide referred to.

During the evening a cat and a dog were successively subjected to progressively increasing pressures of oxygen in the pneumatic chamber. When the pressure reached eighty pounds to the square inch the cat was seized with a convulsion, and the dog had a convulsion when the pressure reached a little above forty-five pounds. That this effect was not due to carbon dioxide was shown by the lime-water test. Both animals recovered after they were restored to the air.

Recent Literature.

Pathological Report, 1887-1888, of The City of London Hospital for Diseases of the Chest, Victoria Park, E. By Sidney Martin, M.D. (Lond.), Assistant Physician to the Hospital, Late Pathologist and Medical Registrar.

This report includes an analysis which, from a pathological point of view, is pretty complete, of forty-nine fatal cases of phthisis and tuberculosis; sixteen of cardiac disease; and a few of empyema, bronchitis, etc. In many respects the clinical analysis is also good; but we note that the sputum seems to have been examined for bacilli in only seventeen of the forty-nine tubercular cases, and in four of these with negative result; in only two of the four, however, was the examination repeated. The immediate cause of death in two cases was hæmoptysis. The intestines were ulcerated in twenty out of thirty-eight cases, and in thirteen of these there was diarrhœa; in eight, well-marked constipation; in one, regular bowels; it should be

added that in the majority of the constipated cases no opiates, to the use of which the constipation could be attributed, were administered, and that in the others the amount of opium was small. It is greatly to be desired that all institutions for the care of the sick should be provided with pathologists as devoted and a management as liberal as the Victoria Park Hospital enjoys. It would not take long to accumulate a mass of facts of the greatest value and interest.

Diabetes, its Cause and Permanent Cure, from the Standpoint of Experience and Scientific Investigation. By EMIL SCHNEE, M.D., Consulting Physician at Carlsbad, and Physician to the Imperial and Royal Consulate of Austria and Hungary for the Riviera at Monaco. Translated from the German by R. L. TAFEL, A.M., Ph.D. English edition, revised and enlarged by the Author. Philadelphia: P. Blakiston, Son & Co. 1889.

The author claims to have made, in 1881, the important discovery that the ætiological element of diabetes is syphilis contracted by some ancestor of the patient. He also maintains that diabetes is curable under his treatment, which, however, so far as we can discover, differs in no essential respect from that commonly employed in this disease, except in the internal administration of corrosive sublimate albuminate and of chromate of potassium. He reports twelve cases of cure which had lasted for at least seven years each. While containing some useful information concerning the views of eminent authorities on the nature and treatment of diabetes, this work is written in an *ad captandum* style, and in a spirit of self-glorification, which seriously detract from its value.

Examination of Water for Sanitary and Technical Purposes. By HENRY LEFFMAN, M.D., and WM. BEAM, M.A. Philadelphia: P. Blakiston, Son & Co. 1889. viii, 106. 12mo.

The authors, in compiling this manual, have selected the more modern and practical chemical methods which have been proposed for the examination of waters for the purposes indicated by the title. These they have described clearly and concisely. They make but brief mention, however, of the bacteriological examination, considering it as beyond the scope of their work. The advice given in regard to the proper interpretation of the results obtained in the examination are very practical, and the little work can therefore prove a useful addition to the literature of its subject.

Parreidt's Compendium of Dentistry. Translated by LOUIS OTTOFY, D.D.S. With notes and additions by G. V. BLACK, M.D., D.D.S. Published by W. T. Keener. Chicago. 1889.

The work is intended for a text-book in the dental schools. Its accuracy and conciseness are to be commended. Drs. Ottofy and Black, both distinguished American dentists, have added much to the value of the original work in adapting it to the needs of the dental student in this country.

The work is divided into twelve chapters. The first is devoted to a consideration of the anatomy and physiology of the teeth. There follows a chapter on anomalies and seven on diseases of the teeth and jaws. These latter are the most important in the book and contain much valuable matter by Dr. Black in addition to the original text. The author accepts the view of Miller that decay is the result of fermentation. In treating of chronic alveolar abscess, it is quite refreshing to hear the statement made that a certain proportion of the cases are incurable. I rarely meet with any dentist who is always successful in these trying cases. Pyorrhœa alveolaris is not considered an infectious disease as Wetzel has claimed, nor does the writer believe it to be a constant symptom of diabetes. Dr. Black believes it to be a specific disease of the peridental membrane, and that the condition of the alveolar wall is secondary.

The remaining chapters are devoted to filling, extraction, and the construction of artifici l plates. The chapter on filling is the least valuable in the work, and is too limited to be reliable.

Manuel Pratique de la Garde-Malade et de l'Infirmière. Tome V. Hygiène, par Sollier, Interne des Hôpitaux, professeur à l'École municipale d'infirmières et d'infirmiers de Bicêtre. Paris: Aux Bureaux du Progrès Médical. 1888.

This little volume upon the subject of general hygiene, or preventive medicine, is the fifth of a series of handbooks adapted to the wants of hospital nurses of both sexes, and is one of the publications of *Progrès Medical*. It is written in an easy, simple, and somewhat elementary style, and treats concisely of those subjects which come within the domain of hygiene. Two different classes of conditions affect the health of mankind; those which act from without, and those which are inherent in the individual (such as sex, age, race, heredity, constitutional resistance, etc.) The author confines himself to the former.

The principal topics treated in its twelve chapters are air, light, heat, endemic and epidemic diseases, the house and its environment, ventilation, heating, clothing, care of the body, bathing, food, meat, vegetables, condiments, and beverages.

Eighth Registration Report of New Hampshire. 1887.

The registration of vital statistics in New Hampshire is under the supervision of the secretary of the State Board of Health. The report of 1887, just published, shows an improvement in the line of public registration over previous years.

The number of births registered in 1887 was 6910; of marriages 3495; and the deaths were 6479. These would indicate, when estimated upon the population of 1880 (346,991), a birth-rate of 19.91 per 1000; a marriage-rate of 10.07; and a death-rate of 18.67. The excess of the birth-rate over the death-rate, or natural increase, was therefore 1.24 per 1000.

The rates for Massachusetts for the same year were as follows: birth-rate 26.45; marriage-rate 9.72; death-rate 20.28; and excess of birth-rate over death-rate 6.17 per 1000, upon an estimated population of 2,010,388.

The percentages of deaths at different ages were as follows, as compared with Massachusetts for the same year: —

	Under 1 year.	Under 5 years.	20 to 30 years.	All other ages.
New Hampshire,	14.62	22.14	7.21	70.64
Massachusetts,	20.89	32.26	9.51	58.23

The percentage of deaths from different causes by classes in the two States was as follows: —

	Zymotic.	Constitutional.	Local.	Developmental.	Violent.	Unspecified.
N. H.,	17.9	20.4	45.7	12.1	3.6	1.3
Mass.,	19.5	22.3	42.2	10.6	4.2	1.2

By counties, the zymotic diseases varied from 9.7 per cent. of the total number in Cheshire to 33.7 per cent. in Coös.

The mortality from the most prominent causes of death was as follows: Consumption, 766 deaths; heart disease, 575; pneumonia, 556; apoplexy and paralysis, 463; old age, 449; cholera infantum, 336; cancer, 218; violence, 182; diphtheria, 177; typhoid fever, 134; brain diseases, 121; bronchitis, 114; diarrhœa and dysentery, 107.

This order of fatality differed but little from that of Massachusetts in 1887. In the latter the number of deaths from pneumonia was greater than those from heart disease; and those from cholera infantum were more than those from old age. Cancer also stood higher in the list in New Hampshire than in Massachusetts.

It is to be hoped that all of the States of the Union will soon adopt efficient systems of registration, that the true condition of the people may be known from year to year, so far as the natural movements of the population are concerned.

Manuel Pratique de la Garde-Malade et de l'Infirmière. Publié par le Dr. Bourneville. Tome I. Anatomie et Physiologie. 4e edition revue et augmentée. Paris: Aux Bureaux du Progrès Medical. 1889.

In spite of certain useful practical suggestions which this little primer for nurses contains, it does not strike us as particularly adapted to the object in view. Although the anatomical part is meant to be sketchy, it touches on a number of points which are really details, and is not always accurate. We doubt whether illustrations of dissections are of any practical use in a book of this kind. The physiology does not please us any better.

Elements of Histology. By E. KLEIN, M.D., F.R.S., etc. Philadelphia: Lea Brothers & Co. New and enlarged edition, with 194 engravings.

Dr. Klein's little work is so well known by this time on both sides of the water that it requires no detailed notice. The present edition shows some changes to bring it up with the times. Dr. Klein has accepted Rollet's views on the structure of muscular fibre, and gives a short sketch of the results of recent work on the nucleus. The text is concise and the illustrations very fine.

— Among the new medical graduates who are beginning to get a foothold in practice is the Archduke Charles Theodore of Austria, who recently commenced to practise as a duly qualified medical man near Méran. A short time ago he treated successfully a patient of seventy-four years of age under circumstances which so strongly impressed the popular imagination that the archducal doctor was fêted by his enthusiastic neighbors. The Archduchess, who has for some time past assisted her husband in performing the more serious of his operations, is said to have begun to "quiz" in preparation for examinations which will place her also on the list of qualified doctors.

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THE UNICITY OF BRIGHT'S DISEASE.

TILL JOHNSON wrote in 1846, "On the Minute Anatomy and Physiology of Bright's Disease," no histological interpretation had been attempted of the lesions described by Bright nearly twenty years previously. Johnson concluded from numerous careful observations that fatty degeneration of the epithelia of the kidneys is the principle and essence of Bright's disease; the exudation of blood and serum in the urine is the consequence of the blood pressure augmented by reason of obstruction of the tubuli. Johnson in his first memoir states the view, since then generally adopted by histologists and clinicians, that the divers aspects described by Bright cannot be regarded as only different stages of one and the same disease. The small granular kidney has but little similarity to the large, white, soft kidney, and if the name of Bright's disease ought to be reserved for that renal degeneration which begins and progresses by fatty metamorphosis, the white kidney ought to be separated from the atrophied kidney.

Rayer, in France, in ranging his six forms under the common name of albuminous nephritis, although he nowhere says expressly that they may undergo transformation the one into the other, seems to admit that these forms are successive phases of one and the same process.

In Germany the microscope in the hands of Reinhardt and of Frerichs confirmed the unicist conception of Bright's disease. Reinhardt attributes the states described by Bright to an inflammatory process which he calls diffuse inflammation. But he thinks that, according to the causes which have produced it, according to the individuals in whom it has developed, this inflammation may follow a different course. He regards the varieties indicated by Bright as the diverse consequences of this diffuse nephritis. Like every inflammatory process, the renal inflammation may present itself to the

observer at different periods of the stages of congestion, of exudation with fatty degeneration of the epithelia, of connective tissue proliferation with ultimate retraction of the tissue of new formation.

Frerichs in 1851 arrived at the same conclusions. The alterations, he thinks, succeed each other in the following order: in the first stage there is hyperæmia with exudation into the renal parenchyma; in the second stage the exudation undergoes varied metamorphoses; which end in a third stage, in a process of regression and in atrophy of the glandular substance.

In England the tendency to dualism became more and more marked after the publication of Johnson's researches. Samuel Wilks advanced the view that the term "Bright's disease" covers at least two diseases absolutely distinct. He criticised Frerichs' propositions. "If," he said, "the small granular and atrophied kidney is the last stage of a uniform process, of a succession of inflammatory congestions, of exudations and subsequent regressions, with ultimate retraction, how is it that we meet with so few instances of intermediate pathological states? Why has not a single case been mentioned where the symptoms which characterize the large white kidney have gradually undergone transformation, to end in those of the small, granular, contracted kidney? Why is there not a single case on record of the small contracted kidney where acute symptoms preceded the chronic evolution of the disease?"

Wilks constituted two principal varieties, altogether distinct, of renal lesions: the large white kidney, and the small contracted kidney. The causes, symptoms, and course of these two varieties are different. Wilks was one of the first to call attention to the frequent association of the renal lesion with alterations of all the tissues, and, in particular, of the heart and arteries.

Dickinson placed himself on the dualist side, and divided Bright's disease into two great varieties: 1, *tubular nephritis*, acute or chronic, which is primitively a catarrhal inflammation of the canaliculi, ending in the large, white, soft, or mottled kidney, and, where life is sufficiently prolonged, in a certain degree of atrophy; and, 2, *intertubular nephritis*, in which there is an exudation between the tubuli which involves the secreting tubuli and the glomeruli in a gradual destruction, the process ending finally in the small contracted kidney.

Grainger Stewart, in 1868, adopted a similar division, and insisted that it was more logical to say Bright's diseases than Bright's disease. Jaccoud defends the plurality of forms in his *Pathologie Interne*, and so do Bartels, Charcot, and Lancereaux in their special treatises. In 1872 Gall and Sutton furnished still other arguments for plurality in the notions which they formulated respecting *arterio-capillary fibrosis* and its relations with the contracted kidney. Lecorché, in his classical work, *Maladies des Reins*, published in 1875, makes of pathological anatomy the basis of his division. He admits two great varieties of renal inflammations, according as the lesions affect the canaliculi or the intertubular connective tissue: the first variety constitutes the parenchymatous nephrites, the second, the interstitial nephrites. He also describes mixed forms, and insists on the frequent combination of interstitial nephritis with grave or "profound" parenchymatous nephritis; amyloid degeneration is described in a separate chapter. Lecorché would reserve the name Bright's disease for profound parenchymatous nephritis, which presents four periods; a period of hyperæmia, a period of hyperplasia, a regressive or fatty period, and a period of atrophy or collapsus.

It is significant of the provisional character of the theories hitherto prevalent respecting the renal diseases, that Lecorché, in the recent admirable treatise, "On Albuminuria and Bright's Disease," which he has published in conjunction with Charles Talamon (a work from which we have borrowed in the foregoing exposition), has abandoned the dualist view which he formerly entertained, and has declared himself a unicist. The considerations which have led to this change are very clearly set forth in the second part of his work; they are considerations derived from the more intimate knowledge which the studies of the past twenty years have given of the morbid anatomy and histology and clinical history of Bright's disease.

We intend in another number to present the principal arguments which these writers have advanced in support of the unicist view.

SIR ANDREW CLARK ON HOSPITALS.

AT a recent meeting in London, held at the Mansion House, in behalf of the Hospital Sunday Fund, Sir Andrew Clark, President of the College of Physicians, was the principal speaker. He set forth in a very plain, forcible way the benefits which hospitals confer upon large, crowded communities, and the corresponding claims which they have upon all classes of such communities. He gave an admirable summary of the reasons why the whole population of any great city is equally interested in the support of its great hospitals. That they are a blessing to the poor man is not likely to be overlooked, but that they prevent the spread of epidemic diseases; hinder the outbreak of pestilence; and serve as the true nurseries of the medi-

cal skill and intelligent care which every man and woman is likely to have to call upon some day, are facts which the general public and the well-to-do need to have kept before their eyes. But there is still another service of a politico-social character which hospitals render in large centres of population, which is surely very much overlooked, and which we are glad to see alluded to by Sir Andrew in these words: "I do not know that there is anything so trying to the faith of mankind or to the order of their lives as to see those whom they love get sick and grow worse and unassisted. Now, in the great centres of population, such as we know a good deal about in the east of London, it is an enormous advantage to keep down those terrible revolutionary feelings which are apt to arise in the breasts of men when they look upon those whom they love crowded together in poor miserable hovels, sick and suffering, with no one, as they think, to relieve or care for them. It seems to me that in this there is a service which hospitals do render to the community and which the community in these days forgets."

The income of the great London hospitals has been diminishing of late years, while the demands made upon them are continually increasing. The agricultural distress has diminished the proprietary income of the old hospitals, and, in so far as they are dependent upon voluntary contributions, they suffer from what this address terms a diminution in the strength and virtue of giving. Sir Andrew Clark believes, moreover, that the great general hospitals are robbed of some of the support which they ought to receive by the foundation and maintenance of improper hospitals which divert funds in directions in which they ought not to be employed.

He pays his respects to special hospitals in the following sentences: —

"A doctor who cannot get on in the ordinary way takes to studying the great toe, and he discovers something about it never known before. In the course of his studies he ascertains that the diseases of the organ are not only supremely important in themselves, but that they have the most intimate relation to all the other serious diseases of the body. He also invents a wonderful instrument whereby he can look into the great toe and see what is threatening, and prevent all those terrible things which happen in the organ and affect the whole system. He goes to his friends, shows them his instrument and tells them of his discoveries. They then club together and establish a Hospital for the Treatment of the Diseases of the Great Toe. They soon get patients who are convinced of the vast importance of the diseases of the great toe. Marvellous cures are effected and all sorts of frightful diseases are prevented. They have an annual meeting. They have a chairman who sets forth bashfully in the presence of the great physician the diseases of the great toe, the wonderful things that have been done, the great service which has been rendered by the hospital, the terrible prejudice it has had to encounter, and the determination that this great institution shall be liberally supported, notwithstanding the prejudices of the medical profession and of those who herd with them."

There has been a disposition to curtail or abolish the out-patient departments in connection with some of the London hospitals, but Sir Andrew, who has probably had as large an experience with them as any one in London, comes vigorously to their defence. Where else, he asks, can the doctor come face to face with the early aspects of disease, where else with those first small indications of disease which tell of its near approach and which are still within the power of art to avert? The doing away with these departments of the great London hospitals would, he thinks, inflict a cruel, irreparable wound on practical medicine in his country.

The opinion that special hospitals have been overdone in London seems to be part of the best medical sentiment, and there is nothing in the remarks of Sir James Paget, Sir Henry Acland, and others at a recent meeting in Oxford, held in behalf of the Eye Hospital of that place, which controverts this opinion. A tendency to the same error has for some years been manifested in our own large cities.

MEDICAL NOTES.

— At the Johnstown flood, six physicians were drowned and twenty-one lost all they had.

— Mrs. Jane C. Stormont, widow of the late Dr. D. W. Stormont, of Topeka, has given 10,000 dollars to the Kansas Medical Society, for the purchase of a library.

— At its recent commencement, the Medical School at Burlington, Vt., gave diplomas to fifty-six graduates.

— Vermont is about to build a new State Insane Hospital at Waterbury. Five hundred acres of land have been purchased, of which thirty acres, in the vicinity of the Central Vermont R.R. Station, are to be used as a building site. The complete plans contemplate a three-story brick building, having a frontage of 900 feet. There will be a central administration building. The main building will consist of two wards, one for men and one for women, connected on each side by a corridor one story high. In each wing will be three two-

story circular wards for the chronic insane. Each ward consists of a day room on the first floor, and has a dormitory for 25 patients. There will be a general hospital ward, three stories high and 150 by 36 feet in size, with a capacity for 75 patients.

— Dr. Donald McLean, Professor of Surgery, and Dr. G. B. Frothingham, Professor of Ophthalmology, at Ann Arbor, have resigned; and Dr. C. B. Nancrede, of Philadelphia, and Dr. Fleming Carrow of Bay City, Michigan, have been appointed.

NEW YORK.

— In consequence of the finding of three dead bodies in the large Croton reservoir in Central Park within three months, the board of health has called the attention of the Park Commissioners and the Commissioners of Public Works to the matter, with a view to the prevention of such suicides in the future. It is suggested that the reservoir should be surrounded with so high a fence as to render it extremely difficult to gain access to the water, and that the Park Commissioners increase the police force on duty in the vicinity of the reservoir.

— The board of health has followed up the report of its pathologists on the contagiousness of tuberculous diseases with the publication of a series of rules to be observed for the prevention of consumption. The first directs that the sputa of suspected consumptives should be received in earthen or glass dishes containing a solution of bichloride of mercury, 1 to 1000. The other rules are as follows: —

2. Do not sleep in a room occupied by a person suspected of having consumption. The living rooms of a consumptive patient should have as little furniture as practicable. Hangings should be completely avoided. The use of carpets, rugs, etc., ought always to be avoided.

3. Do not fail to wash thoroughly the eating utensils of a person suspected of having consumption as soon after eating as possible, using boiling water for the purpose.

4. Do not mingle the unwashed clothing of consumptive patients with similar clothing of other persons.

5. Do not fail to catch the bowel discharges of consumptive patients with diarrhœa in a vessel containing corrosive sublimate one part, water one thousand parts.

6. Do not fail to consult the family physician regarding the social relations of persons suffering from suspected consumption.

7. Do not permit mothers suspected of having consumption to nurse their offspring.

8. Household pets (animals or birds) are quite susceptible to tuberculosis: therefore do not expose them to persons affected with consumption: lso do not keep, but destroy at once all household pets suspected of having consumption, otherwise they may give it to human beings.

9. Do not fail to thoroughly cleanse the floors, walls, and ceilings of the living and sleeping rooms of persons suffering from consumption at least once in two weeks.

Ten thousand copies of these rules are to be printed for distribution.

Miscellany.

PRESIDENTIAL ADDRESS AT THE ANNUAL MEETING OF THE OHIO STATE MEDICAL SOCIETY.

In his address, as president, at the last annual meeting of the Ohio State Medical Society, Dr. P. S. Connor, of Cincinnati, said:

As is the appendix to the intestinal tract, a useless survival of a once important organ, so is the presidential address to the annual proceedings of the State Medical Society. In the days when books and journals were few, communication slow, professional work physically harder than at present, there was, I doubt not, good reason for requiring of the recipient of high honor an abstract of the year's progress, suggestions of work that might and should be done, or report of diseases and injuries carefully investigated and successfully treated. Now that to each one of us what appeared in print but a short time ago in San Francisco, Boston, Vienna, or St. Petersburg is familiar talk it may be well asked of the inaugural address, *Cui bono.* Hardly yours; surely not his to whom the months of prospect of its preparation are as the fly in the ointment of the apothecary. But custom is imperious and we are all its slaves. Like my predecessors I obey its mandates.

The year just closed, unmarked by any epoch-making discovery, has been one of busy work at home and abroad. In our own country laboratory study has been carried on as never before, and vivisections have thrown light on some obscure conditions. The work done at the congress at Washington in September last on the subjects of intestinal obstruction and cerebral surgery was of the greatest imaginable importance.

The State society, to command respect and be effective, must have a large membership. Out of the four thousand doctors in the State who bear no creed or limiting designation, only five hundred and sixteen appear on the roll of members published in the last year's *Transactions.* Contrast this to the one thousand seven hundred members of the Massachusetts State Medical Society out of about two thousand physicians. Nine counties in our State are unrepresented, and many others have but one, two, or three members. One-third of the members come from six counties. He advised the adoption of measures to bring in a larger membership, and thought it was wise to so amend the law that every regular physician, member of a county medical society, becomes through this a member of the State society.

In years past much of the time of the society had been devoted to "the regulation of the practice of medicine." He thought that the making of the

physicians of Ohio better diagnosticians and more successful attendants on the sick and the injured and the prevention of illy prepared men from entering upon the study of medicine should be sought for, but beyond this he had grave doubts as to the wisdom of interference. Public opinion is taking a turn all over the country in favor of legal restriction of the practice of medicine, and this would have the desired effect. Certainly it is not wise for medical men to be constantly decrying practitioners of medicine. The people of Ohio have to-day as good physicians as they ask for or are in fact entitled to. When they demand better and support better, then and not till then will they receive better. More medicine and less medical politics is, as I look at it, the want of the times in America.

He urged upon the society more work in the line of collective investigation of disease, and cited the good work done in this line by the State society of Texas. He recommended that the papers read before this society be short, clear statements of what the writers have themselves observed, studied, and done, leaving to the hearers, as disposed, investigation into the literature of the subject, and comparison of theories and conflicting opinions. "Never mind the items; give us the total."

He considered the social features of such a meeting by no means the least. If not a paper was read or a resolution discussed, he thought the gathering of the clan once a year well worth the trouble and expense. Such a tonic and such an alterative clear the brain and strengthen the heart. He referred in touching words to the death of Dr. D. Haldermann, of Columbus, first vice-president, who had earnestly, honestly, faithfully, and ably finished his life-work at fifty-seven.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 13, 1889.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption	Diarrhœal Diseases.	Typhoid Fever.	Diph. and Croup.
New York	1,571,558	1187	764	49.14	7.29	42.57	.36	3.15
Philadelphia	1,040,245	607	358	29.50	8.00	23.20	1.76	1.12
Chicago	830,000	433	298	39.56	5.06	31.97	.69	4.14
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	276	179	37.80	5.04	23.00	.46	—
St. Louis	450,000	—	—	—	—	—	—	—
Boston	413,567	238	134	36.12	10.92	30.24	1.26	2.52
New Orleans	250,000	122	46	18.04	13.12	9.84	—	.82
Cincinnati	225,000	138	—	32.12	8.76	21.17	.73	2.19
Washington	225,000	141	57	30.53	11.36	23.43	2.84	—
Pittsburg	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	—	—	—	—	—	—	—
Charleston	60,145	46	17	15.19	19.36	10.85	—	—
Portland	40,000	16	6	25.00	8.25	25.00	—	—
Worcester	78,292	—	—	—	—	—	—	—
Lowell	71,518	44	29	52.21	11.35	47.67	—	2.27
Cambridge	65,552	39	20	35.84	5.12	33.28	—	2.56
Fall River	62,647	44	29	54.48	2.27	54.48	—	—
Lynn	53,334	14	7	—	7.14	—	—	—
Springfield	40,731	20	16	70.00	10.00	70.00	—	—
Lawrence	40,619	42	28	42.84	2.38	38.04	—	2.38
New Bedford	37,253	23	16	43.47	4.35	39.15	4.35	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	20	8	15.00	10.00	15.00	—	—
Brockton	28,813	—	—	—	—	—	—	—
Chelsea	28,167	24	14	31.85	9.10	27.30	—	4.55
Haverhill	26,058	8	4	37.50	—	25.00	—	—
Taunton	25,170	—	—	—	—	—	—	—
Gloucester	24,263	4	1	—	—	—	—	—
Newton	21,553	6	1	—	16.66	—	—	—
Malden	19,774	7	4	42.84	14.28	42.84	—	—
Fitchburg	17,534	6	1	—	16.66	—	—	—
Waltham	17,332	2	1	50.00	50.00	50.00	—	—
Newburyport	13,875	3	—	—	—	—	—	—
Northampton	13,726	—	—	—	—	—	—	—
Quincy	13,728	5	1	40.00	20.00	20.00	—	—
Woburn	12,822	—	—	—	—	—	—	—

Deaths reported 3515, under five years 2.39; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 1335, consumption 269, acute lung diseases 137, diarrhœal diseases 1125, diphtheria and croup 74, typhoid fever 29, measles 28, scarlet fever 28, whooping-cough 23, malarial fever 13, cerebro-spinal meningitis 11, erysipelas 4. From measles, Cincinnati 11, Philadelphia 6, New York 4, Chicago 3, New Orleans 2, Boston, Charleston, and Haverhill 1 each. From scarlet fever, New York 10, Philadelphia 8, Chicago 5, Washington 3, Baltimore and Lowell 1 each. From whooping cough, New York 12, Philadelphia 6, Boston 3, Washington and Lawrence 1 each. From malarial fever, New Orleans 7, New York and Baltimore 2 each, Philadelphia and Charleston 1 each. From cerebro-spinal meningitis, Chicago 4, New York 3, Washington 2, Philadelphia and Quincy 1 each. From erysipelas, New York 3, Boston 1.

In the 28 greater towns of England and Wales, with an estimated population of 9 555,406, for the week ending July 6th the death-rate was 17.7. Deaths reported 3249; infants under one year 1026. Diarrhœa 377, measles 97, whooping-cough 81, diphtheria 58, scarlet fever 55 fever 32.

The death-rates ranged from 11.2 in Nottingham to 29.2 in Newcastle-on-Tyne; Birmingham 14.3; Bradford 19.1; Hull 20.1; Leeds 26.9; Leicester 20.5; Liverpool 17.8; London 16.2; Manchester 25.3; Portsmouth 20.0; Sheffield 18.0; Sunderland 21.0.

In Edinburgh 17.4; Glasgow 25.8; Dublin 22.8.

The meteorological record for the week ending July 13, in Boston, was as follows, according to observations furnished b Sergeant J. W. Smith, of the United States Signal Corps: —

Week end'g Saturday, July 1889.	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather.*			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8 A. M.	8 P. M.	Daily Mean.	8 A. M.	8 P. M.		8 A. M.	8 P. M.		8 A. M.	8 P. M.		Duration. Hours & Min.	Amount in Inches.
July 7	30.07	71.0	78.0	62.0	64	75	70.0	N. W.	W.		6	6		C.	C.		0.10	T.
" 8	30.91	69.0	82.0	63.0	66	97	82.0	N. W.	E.		14	9		F.	O.			.00
" 9	30.06	62.0	65.0	60.0	90	86	88.0	E.	S. E.		7	4		O.	O.			.00
" 10	30.08	63.0	66.0	59.0	89	82	86.0	W.	E.		8	1		O.	O.		2.30	.T.
" 11	29.98	64.0	67.0	62.0	90	95	92.0	W.	S. W.		5	8		O.	O.		5.05	.04
" 12	29.88	68.0	72.0	62.0	85	86	86.0	N.	S. E.		2	6		F.	C.			.00
" 13	29.90	72.0	86.0	66.0	90	91	90.0	S. W.	S. W.		6	13		F.	F.			.00
Means for the Week	29.99		72.0	63.0			85.0										7.45	

* O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 13, 1889, TO JULY 19, 1889.

BRECHEMIN, LOUIS, Captain and Assistant Surgeon, U. S. A., by Par. 1, S. O. 159, A. G. O., July 12, 1889, ordered to Illinois National Guard, near Springfield, Ill., during remaining portion of encampment.

Leave of absence for fifteen days is granted Lieutenant R. R. BALL, Assistant Surgeon, U. S. Army. Par. 3, S. O. 87, Dept. of the Missouri, July 9, 1889.

By direction of the Secretary of War the extension of leave of absence on surgeon's certificate of disability granted Captain H. G. BUNTOX, Assistant Surgeon, in S. O. 22, January 26, 1889, from this office, is further extended two months on account of sickness. Par. 1, S. O. 162, A. G. O., July 16 1889.

IMS. F. J., Assistant Surgeon U. S. Army, now at Fort Lyon, Col., will proceed to camp near Oklahoma City, Ind. Terr., and report to the commanding officer for duty, relieving Captain W. C. Gorgas, Assistant Surgeon, who, when so relieved, is authorized to avail himself of the leave of absence granted him in Par. 2, S. O. 84, c. s. Dept. of the Missouri. Par. 1, S. O. 87, Dept. of Mo., July 9, 1889.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FROM JUNE 10, 1889, TO JULY 13, 1889.

FESSENDEN, C. S. D., Surgeon. To proceed to Cairo, Ill., on special duty, July 8, 1889.

LONG, W. H., Surgeon. Granted leave of absence for twenty-eight days. June 18, 1889.

AUSTIN, H. W., Surgeon. To proceed to Cairo, Ill., on special duty, July 8, 1889.

IRWIN, FAIRFAX, Surgeon. Granted leave of absence for ten days. July 6, 1889.

MEAD, F. W., Passed Assistant Surgeon. Granted leave of absence for thirty days. June 24, 1889.

MAGRUDER, G. M., Assistant Surgeon. Relieved from duty at Baltimore, Md., to report to the Supervising Surgeon-General for duty as Acting Chief Clerk and Attending Surgeon. July 10, 1889.

GOODWIN, H. T., Assistant Surgeon. Granted leave of absence for thirty days. July 8, 1889.

SOCIETY NOTICE.

WHITE MOUNTAINS MEDICAL SOCIETY.

The semi-annual meeting of this Society will be held at Hanover, N. H., August 1 and 2, 1889, beginning at 3 P.M. of Thursday. The Connecticut River Valley and the White River Medical Societies have accepted an invitation to meet at the same time and place.

The Faculty of Dartmouth Medical College have consented to take leading parts in the exercises of these meetings. They will speak, read papers on practical medical subjects, and will show and operate on cases if suitable ones are presented.

APPOINTMENT.

Dr. W. P. MANTON, of Detroit, has been appointed consulting Gynecologist to the Eastern Michigan Asylum.

BOOKS AND PAMPHLETS RECEIVED.

A Clinical Study of Paraldehyde and Sulphonal. By C. M. Hay, M.D. Reprint.

The Discovery. A Key to the Mysteries of Life. By J. D. Stillman, M.D., St. Louis, Mo.

First Annual Announcement of Tennessee Medical College, Knoxville, Tenn. Session 1889-90.

Annual Report of the Board of Health of the City of Lowell, for the year 1888. Lowell, Mass. 1889.

Annual Announcement and Catalogue of the College of Physicians and Surgeons. Baltimore, Md. 1889.

Les Agents Provocateurs de l'Hystérie. Par Georges Guinon. Publications du Progrès Médical. Paris. 1889.

The Student's Textbook of the Practice of Medicine. By Angel Money, M.D. Lond. London: H. K. Lewis. 1889.

The Washington Life Insurance Company: Historical, Actuarial, and Medical Statistics. New York. Published by the Company. 1889.

Immunity through Leucomaines. By Eusebio Güell Bacigalupi. Translated from the Second French Edition by R. F. Rafael, M.D. N. Y.: J. H. Vail & Co. 1889.

Lectures on Bright's Disease. By Robert Saundby, M.D. Edin., Fellow of the Royal College of Physicians, London. With 50 illustrations. Bristol: John Wright & Co. 1889.

Der Catarrh des Recessus Pharyngeus Medius, seine Bedeutung und Vereinfachte Chirurgische Behandlung. Von Dr. R. Kafemann Wiesbaden: J. F. Bergmann. 1889.

On Bronchial Asthma, its Pathology and Treatment. By J. B. Berkart, M.D., Late Physician to the City of London Hospital for Diseases of the Chest. Second Edition. London: J. & R. Churchill. 1889.

Ueber Electrolytische Operationen in den Oberen Luftwegen. Vortrag Gehalten in dem Verein für Wissenschaftliche Heilkunde. Zu Königsberg am 15 April 1889. Von Dr. Med. R. Kafemann. Wiesbaden: J. F. Bergmann. 1889.

Du Rôlé de L'Hérédité dans l'Alcoolisme. Par Paul Sollier. Interne des Hôpitaux de Paris. Avec un préface de M. de Bourneville, Médecin l'Hospice de Bicêtre. Paris: Aux bureaux du *Progrès médical*, 14 Rue des Carmes. 1889.

Diseases of Women. A Manual of Non-Surgical Gynæcology. Designed Especially for the Use of Students and General Practitioners. By F. H. Davenport, A.B., M.D. With numerous illustrations. Philadelphia: Lea Bros. & Co. 1889.

A Treatise on Surgery: its Principles and Practice. By T. Holmes, M.A. Cantab., Consulting Surgeon to St. George's Hospital, etc. With 428 illustrations. Fifth Edition. Edited by T. Pickering Pick. Philadelphia: Lea Bros. & Co. 1889.

Transactions of the New York State Medical Association for the year 1888. Vol. v. Edited for the Association by Alfred Ludlow Carroll, M.D., of Richmond Co. Concord N. H. Republican Press Association. N. Y.: J. H. Vail & Co. 1889.

Secondary Mixed Infection in some of the Acute Infectious Diseases of Children. A Thesis read before the Chicago Gynæcological Society, Jan. 25, 1889. By Bayard Holmes, M.D., Attending Surgeon Cook County Hospital, Director of the Bacteriological Laboratory of Chicago Medical College, Professor of Surgery in the Post-Graduate Medical School. Reprint.

Original Articles.

STYRONE: A CONSIDERATION OF ITS VALUE AS AN ANTISEPTIC.

BY H. H. A. BEACH, M.D.,
Visiting Surgeon to the Massachusetts General Hospital.

THE addition of a new agent to the long list of antiseptics that have been employed, and are now being used, in the various departments of medical and surgical practice is not advised without hesitation. Observations in hospital and private practice, extending through a period of eleven years, warrant me in endorsing all that I claimed for styrone when announcing the discovery of its antiseptic properties to the Boston Society for Medical Observation in 1879. The scarcity of the drug, owing to the expense of its production, has been prohibitory of its general use, until now it enters the market as a comparatively new product at a reasonable cost. The origin of styrone (from liquid storax and balsam of Peru) suggests the reason for the employment and the effectiveness of the balsams in antiquated and modern surgical dressings.

Styrone, when used as an antiseptic, possesses three important advantages:

It is { 1st, Efficient
2d, Non-poisonous
3d, Agreeable in odor.

Surgeons of experience will admit the desirability of an agent offering adequate protection to a wound, and by competent tests proved to be without toxic properties. Lest the clinical tests of poisonous action, through absorption of the drug from dressing or the douching of cavities, should be insufficient, it has been given to dogs in doses of a fluid ounce with no unfavorable results. As a deodorizer of foul and offensive wounds or ulcers, particularly those associated with malignant disease or necrosed bone, it is as prompt, effectual and lasting as either of the poisonous or offensive smelling applications in common use. Its odor, not unlike that of cinnamon-water (U. S. P.), is worth the attention of surgeons who are using antiseptics near the head or face. In ulcerating cancerous growths it may be conveniently sprayed upon parts too sensitive to bear the douching necessary for clearing the surface of decomposing discharges. The following formula has been found useful in such cases, with the addition of morphine as required.

℞	Styrone	ʒi.	
	Glycerine	ʒi.	
	Distilled Water	ʒi.	M

To a raw surface, pure styrone is somewhat irritating; but in the form of an emulsion with olive oil, water or liquid vaseline, it may be applied freely to open wounds.

In the pleural and peritoneal cavities where the greatest opportunity is offered a *poisonous* antiseptic for absorption, styrone in solution[1] may be freely used without danger. One part to twelve, with water, is sufficiently strong to completely disinfect a foul and ulcerating surface.

In dentistry, I have the assurance of Dr. L. D. Shepard, formerly Professor of Operative Dentistry in the Harvard Dental School, and of Dr. C. A. Brackett, at present Professor of Dental Therapeutics, that they find it possessed of valuable antiseptic qualities and useful in their art. Dr. Brackett writes, "Styrone continues to be one of the agents upon which I place most reliance for correcting foul conditions in carious cavities and especially in the pulp canals of teeth . . . its odor is, for most patients and for myself, most agreeable."

I have never given styrone internally excepting to dogs. Its action upon the cholera bacillus is, however, so marked that a trial of it in cases of Asiatic cholera is indicated. It may yet corroborate the brilliant discovery of Koch, by killing the bacillus with which he explains cholera, and curing the patient. A solution 1–60, with a small proportion of glycerine added, tastes agreeably, and has a gently stimulating effect upon the mucous membrane of the mouth not unlike that of ginger syrup.

In the form of spray, using the following formula,

℞	Styrone	ʒi.	
	Glycerine	ʒi.	
	Distilled Water	ʒxxii.	M

I have known it to give great relief, with diminution of cough and expectoration, in a number of instances where the patients were subjects of phthisis, no other medicines being in use at the time. It may be substituted for carbolic acid in gargles requiring antiseptic action.

I have excised the female breast repeatedly, and after tying all vessels, washed out the resulting cavity with styrone and liquid vaseline (1–12), closed the wound with catgut sutures, enveloping the projecting ends of the drainage-tubes with a bunch of charpie as large as the fist, which had been saturated with the mixture and squeezed dry, then covering the wound with two layers of sheet-lint saturated with the mixture, overlapping the incision an inch on each side. A layer of borated cotton was afterward applied to maintain an even compression. Upon removal of the dressing at the end of eight or ten days, a good union without suppuration has been found. No unfavorable effects from its use have been observed in any instance.

The following case, copied from the hospital records, furnishes some evidence of its value as an antiseptic and of the freedom with which it may be used in the pleural cavity.

The patient was a young man, a student under the care of Dr. Seeyle, of Amherst, Mass. He had been in robust health up to April 25, 1888, when he developed the characteristic symptoms of pneumonia, with consolidation of the lower lobe of the left lung. An œdema of the right lung followed, and his condition became so critical that his life was despaired of for four days. His temperature was high, but controlled by 5 gr. to 7 gr. doses of antifebrin; pulse was rapid and feeble; respiration was rapid and shallow, with tracheal râles. Treatment (brandy, digitalis, carbonate of ammonia and atropia in $\frac{1}{100}$ gr. doses), lessened the œdema and relieved his breathing.

About May 1st, it was noticed that the heart-beat was well over on the right side of the sternum, and it has remained there ever since. This led to the belief that fluid had filled the left pleural cavity, though bronchial sounds were heard loudly as soon as he became a little stronger.

On May 4th, an aspirator-needle was inserted, and one-half pint of pus drawn off.

[1] 1–200, 1–100, or 1–50, with water, according to the requirements of the case.

On May 6th, about sixty-six ounces of pus were removed. Breathing then became easier, and the heart changed its position toward the left side.

On May 7th, sixteen ounces of pus removed by the aspirator.

On the 15th, 18th and 20th, from six to eight ounces were removed at each respiration; twelve ounces on the 22d.

Since the 15th, pus has not seemed to lie wholly in one cavity, but in pockets between the lung and chest-wall circumscribed by adhesions. Often the needle would strike nothing at one point but immediately after at a point one inch or more in any direction from the first puncture, ʒ i to ʒ vi would be found. Three or four points would be tried each day; and for the past ten days only two to three drachms have been removed from any one place, from some, nothing. For the past three weeks his temperature has ranged from 99.5° to 102.5°; pulse, from 120 to 140; respiration, from 25 to 40. Hoffman's anodyne relieves dyspnœa. Latterly, gtt. xii Majendie's solution morphia, twice daily, has afforded great relief. Brandy, ʒ ss, every three or four hours. Two quarts of milk, one or two egg-nogs daily; and for a tonic, tr. ferri chlor., acid phosp. dilut., and syr. ferric iod. For two or three days past pericardial friction sounds have sometimes been heard over right nipple.

May 28th, patient sent to the Massachusetts General Hospital. On entrance, general cyanosis; respiration very rapid and shallow; apex beat in fifth space, one inch outside of *right* nipple; slight systolic souffle at apex; flat throughout whole left chest; absent fremitus and feeble respiration; good resonance and respiration through whole right lung; a few coarse râles here and there; abdomen negative; urine highly acid, specific gravity 1027, no albumen, much sediment, urates. Liquid diet every two hours; carb. ammonia gr. v., and brandy ʒ ss, every two hours; tr. digitalis gtt. x, thrice daily; at 3 P. M., morphia subcutaneously, (½ grain), followed by relief of respiration and dyspnœa, and some sleep; at 6 P. M., another subcutaneous injection morphia.

May 29th, another subcutaneous injection morphia, ½ gr. at 4 A. M. Considerable cyanosis to-day and constant dyspnœa. Takes nourishment well. Transferred to surgical ward.

Dr. Beach saw him for the first time on the 29th and found his condition so serious (temperature 105°) that he explored the left chest immediately with the aspirator-needle in the ninth space, posterior axillary line, and withdrew one and a half pints of thick pus. When the cavity containing it had been exhausted, he punctured in the seventh space, and withdrew one and a half pints more. The cyanosis was much lessened, the patient breathed easier. The apex beat returned to a point inside of the right nipple, and there was good resonance over the left chest to the fifth rib.

On the following day his temperature was normal, color good, and respiration easy.

During the three following days the fluid began to accumulate again, and his temperature to rise once more. In anticipation of the previous experiences of the patient, Dr. Beach cut down upon the seventh rib, and made a resection which permitted free drainage, stitched a double tube in place, and washed out the cavity with a solution of styrone, 1 part to 200, afterward increasing the strength to 1–40.

On May 6th, the discharge was profuse but perfectly sweet; temperature normal; the lung has expanded; there is good respiration to the seventh rib in front; apex beat in stomach line; improving fast and gaining flesh. The discharge continued to diminish, and general improvement was constant.

July 9th, he was discharged well, the sinus entirely healed, and has gained twenty pounds since he entered the hospital.

Six months after, Dr. Seelye examined him, and pronounced him "in perfect health." He has gained in strength ever since he left the hospital.

In considering the strong germicidal properties of styrone, I have naturally been led to test its influence in hay-fever and rose-cold, knowing it to be a harmless and non-poisonous drug. Without wearying the reader by detailing many cases, I will simply add that it has been used sufficiently to prove that the marked relief and comfort following the use of spray containing styrone has been something more than a coincidence, whether or not the disease is due to the presence of micro-organisms. In not one case has it aggravated the symptoms. The following formula I have found useful as a spray for the nose and throat, used three or four times daily for five minutes, or more frequently, according to the severity of the case and the relief obtained each time:

℞	Styrone	gtt. x.
	Glycerine	ʒ ii.
	Water	ʒ iv. M
℞	Styrone	gtt. v.
	Liquid Vaseline	ʒ ii. M

The latter to be used with a vaseline spray-producer.

The appended report of Dr. Edward K. Dunham, Bacteriologist of the Massachusetts Board of Health, is corroborative of the above and of the microscopical observations made by me, in 1879, of the power of styrone in restricting the growth of some micro-organisms. I am under many obligations to him for the skilful and painstaking efforts he has made to reach the facts, and for arranging them in such attractive shape. They are published with his kind permission.

EXPERIMENTS WITH STYRONE, SULPHONAPHTHOL, EUCALYPTUS EXTRACT AND GLYCOBORON.

The method employed in studying the germicide value of these four reputed antiseptics consisted in subjecting cultures of bacteria to their action for definite periods of time, and then testing the cultures for living bacteria of the species originally present.

The species of bacteria chosen for these experiments were: bacillus anthracis, bacillus choleræ Asiaticæ (Koch), streptococcus pyogenes, staphylococcus pyogenes aureus, and a mixture obtained from a cold-water extract of beef which had undergone spontaneous putrefaction after exposure to the air.

The steps taken to put the above method into practice were as follows: Erlenmeyer flasks or test-tubes of sterile bouillon made from beef-water with the addition of one per cent. of Merk's *peptone carne sicc.* and one-half per cent. of table salt were inoculated with the bacterium on which the germicide action of the antiseptic was to be tried, and the culture allowed to develop until the bouillon was distinctly cloudy. A known proportion of the antiseptic was then added and thoroughly mixed with the culture. The mixture then stood either at the temperature of the room, or in the incubator, and at intervals little samples were

taken for examination with a sterile platinum loop. The amount taken for each test was about one-fiftieth of a cubic centimetre, which was transferred to a test-tube containing from five to eight cubic centimetres of sterile gelatine made of the same ingredients as the bouillon, with the addition of ten per cent. of Nelson's gelatine. The small quantity of antiseptic contained in the sample was therefore diluted with from 250 to 400 times its bulk of gelatine. The gelatine, after being thoroughly mixed with the sample was solidified on the inner surface of the test-tube so as to form a thin layer (Esmarch's "roll-tube"[2]). The roll-tubes were then set aside to develop, at the room temperature. Those in which no growth appeared were kept from one to five months, to exclude the chances of overlooking possible retarded or scanty growth.

These tests were made in duplicate; and, at the same time, a roll-tube of the micro-organism employed was made from a culture started at the same time, and like those treated with the antiseptic, but to which nothing had been added. This roll-tube served as a standard of comparison for the others, and made it possible to judge whether the antiseptic had retarded the growth of the bacteria.

A. Experiments with Styrone.

(1) On the Bacteria of Putrid Meat Water.

Minced beef was soaked twenty-four hours in twice its weight of cold water, strained, and the extract left exposed to the air for three days. Erlenmeyer flasks containing measured quantities of sterile bouillon were then inoculated with the putrid water, and allowed to develop for twenty-four hours. Definite proportions of styrone were then added, and the mixture preserved either at the room temperature, or at a constant temperature of 30 C. At intervals, roll-tubes were made with about one-fiftieth of a cubic centimetre of the mixture and five cubic centimetres of gelatine. Resulting growth in the roll-tubes, at the room temperature, was absent with three and one-third, two, one, and one-half of one per cent. acting through eight, twenty-four and fifty-two hours. One-third of one per cent. showed growth within the period of eight hours. At a temperature of 30° C., three and one-third, two, and four-fifths of one per cent. showed no growth in periods of eight, twenty four and fifty-two hours. One-third of one per cent. showed growth while acting eight and twenty-four hours, and one-sixth of one per cent. showed growth in the three experiments of eight, twenty-four, and fifty-two hours.

These results indicate that one-third of one per cent. is not sufficient to kill the ordinary putrefactive bacteria at the usual room temperatures. At a higher temperature the action of the styrone is a little stronger, but one-sixth of a per cent. does not destroy the bacteria even at a temperature of 30 C. (86 F).

(2) On Anthrax Spores.

Cleansed and sterilized silk threads were soaked in bouillon containing large numbers of disseminated anthrax spores obtained from potato cultures of anthrax grown at a constant temperature of 30° C. The threads were then quickly dried.

A number of these threads were placed in strong styrone. At intervals ranging from two minutes to twenty-six hours, two threads were taken out and placed in five centimetres of gelatine, and a roll-tube made. In every case an abundant growth of anthrax resulted, showing that styrone, even in full strength, is incapable of killing anthrax spores.

Another set of experiments similar to these was made with the saturated solution of styrone spoken of in the following paragraph. The results of these experiments were the same as those where styrone in full strength was used, showing that admixture of water with the styrone did not, in this case at least, increase its germicide action.

(3) On the Bacillus of Asiatic Cholera (Koch).

Eight test-tubes containing sterile bouillon were inoculated with the bacillus, and allowed to develop for twenty-four hours at a temperature of 35° C. To four of these tubes a quantity of a saturated solution of styrone, equal in bulk to the bouillon already present was added, and the tubes placed in a incubator at 35° C. From these tubes, and also from those not treated with styrone, samples were taken and roll-tubes prepared. In all the roll-tubes from the untreated cultures an abundant growth of the bacillus could be seen on the second day. From the tubes treated with styrone, samples were taken five minutes after the addition of the styrone, in two of the resulting roll-tubes no growth appeared, in the other two, there were 180 and 360 colonies respectively. Samples taken twenty-four hours after the addition of the styrone contained no living bacteria.

The saturated solution of styrone which was used in these experiments, and the following ones, was prepared by heating a slight excess of the styrone with tap-water until the water reached a boiling point, allowing the mixture to become cold, and then filtering through a moistened filter. In this way a perfectly clear and homogeneous solution was obtained. This method was employed in order to avoid the use of an emulsion which might be of widely varying strength.

(4) On the Streptococcus Pyogenes.

Fresh cultures of the streptococcus pyogenes were obtained from a metastatic abscess in the axilla. With this material a number of bouillon cultures were made, and, after forty-eight hours incubation at 36.5° C., treated with definite proportions of the saturated aqueous solution of styrone. Roll-tubes were then made as in the previous experiments, to test the cultures for viable streptococci. The results are given in the following table:

Styrone Sol.	100 %†	3 %†	6 %	9 %	12 %	15 %†	21 %	30 %
After 8 min.	****	..	..	..	..	..	..	..
" 1½ hrs.	0	****	..	..	..	**	..	..
" 2 "	..	****	****	****	****	**	*	*
" 4½ "	..	****	..	..	..	**	..	..
" 6 "	..	****	****	****	****	*	*	*
" 8 "	0	..	..	..	..	..	..	..
" 18 "	0	..	..	..	..	..	..	..

† Experiment made in quadruplicate, the others made in duplicate.

An attempt has been made in the above to indicate the relative number of colonies present in the roll-tubes, as compared with the number in a control roll-tube made from a culture of the streptococcus prepared at the same time and manner as those to which the styrone solution was added, but to which no styrone had been added. The growth in those roll-

[2] Zeitschr. f. Hygiene, Ed. I., 293.

tubes in which the number of colonies did not differ materially from that in the control is indicated with four asterisks, a considerably smaller number with three, and so on. The cultures were kept at a temperature of 36.5° C.

In order to determine whether the multiplication of the streptococcus would be inhibited by the addition of a smaller proportion of styrone than would be necessary to kill it, the following experiments were made. To test-tubes containing a known amount of agar-agar definite proportions of the styrone solution were added, and, after thorough mixture, the agar quickly solidified. These tubes were then inoculated with the streptococcus, and placed in the incubator at 36.5° C. At the same time a control culture was made to serve as a standard of comparison. Great pains were taken to have the amount of the bacterium used the same for all the tubes. The result of a comparison of the growth in the styrone-agar tubes, with that in the control-tube is given in the following table.

Styrone Sol.	0.8%	1.6%	2.4%	4%	5.6%	8%	12.5%	25%
After 24 hours,	****	****	****	****	****	****	0	0
" 7 days,	****	****	****	****	****	****	0	0

(5) On Staphylococcus Pyogenes Aureus.

This coccus was obtained in fresh culture from pus derived from an acute abscess. The experiments with it were parallel with those made with the streptococcus, and require no special description. The results of bouillon cultures of the staphylococcus treated with styrone solution at 36.5° C., are tabulated as follows:

Styrone Solution added	100%	60%
After 1½ hours	****	..
" 2 "	..	****
" 10 "	..	****
" 24 "	0	..

Agar-agar, containing definite proportions of styrone, was inoculated with the staphylococcus. Kept at a constant temperature of 36.5°, and compared with a control culture of the same age, the styrone solution of eight-tenths, one and six-tenths, two and four tenths, four, five and six-tenths, eight, twelve and five-tenths, and twenty-five per cent.. after twenty-four hours and seven days, showed in each case a growth in which the number of colonies did not differ materially from that in the control tube.

(6) On a Guinea Pig.

A guinea pig weighing 720 grammes, was fed, by means of a stomach-tube, with the saturated solution of styrone used in the foregoing experiments. The experiment was made three times, the dose being two cubic centimetres, five cubic centimetres, and ten cubic centimetres. In no case did any appreciable effect result.

B. Experiments with Sulphonaphthol.

(1) On Streptococcus Pyogenes.

Sulphonaphthol Solution added,	100%†	3%	15%
After 8 minutes	0	..	..
" 1½ hours	..	**	0
" 4½ "	..	**	0
" 24 "	0	..	..

† Experiment made in quadruplicate, the others in duplicate.

These experiments were similar to those made with styrone. The sulphonaphthol was used in a solution prepared by adding about three cubic centimetres of it to fifty cubic centimetres of water, heating to incipient boiling, cooling and filtering. Temperature 36.5° C.

To determine the inhibitory action of the sulphonapthol. Temperature 37°.

Sulphonaphthol Sol.	0.8%	1.6%	2.4%	4%	5.6%	8%
Growth after 24 hours,	0	0	0	0	0	0
" " 7 days,	0	0	0	0	0	0

(2) On Staphylococcus Pyogenes Aureus. Temperature 36.5°.

Sulphonaphthol Solution added	100%	21%
After 1½ hours	0	*
" 24 "	0	0

To determine inhibitory action:

Sulphonaphthol Sol.	0.8%	1.6%	2.4%	4%	5.6%	8%
Growth after 24 hours,	****	***	*	*	0	0
" " 48 "	****	****	*	*	0 (?)	0
" " 72 "	****	****	**	*	*	0
" " 9 days.	****	****	****	****	*	0

(3) On Anthrax Spores.

Silk threads containing anthrax spores were immersed in sulphonaphthol, full strength, for twenty-four and forty-eight hours, and then roll-tubes made. In all cases an abundant growth of anthrax resulted after the threads had been transferred to gelatine.

C. Experiments with Pure Volatile Eucalypti Extract.

(1) On Streptococcus Pyogenes.

A saturated solution was prepared in a manner similar to that followed in the experiments with styrone. Temperature 36.5°.

Eucalypti Solution added	100%
After 8 minutes	****
" 8 hours	****
" 18 "	****
" 24 "	****
" 7 days	***
" 8 "	***

(2) On Staphylococcus Pyogenes Aureus. Temperature 36.5°.

Eucalypti Solution added	100%
After 1½ hours	****
" 24 "	****

(3) On Anthrax Spores. No effect.

D. Experiments with Glycoboron.

(1) On Streptococcus Pyogenes.

A ten per cent. solution was used. Temperature 36.5°.

Glycoboron Solution added	100%
After 8 minutes	****
" 8 hours	****
" 18 "	****
" 24 "	****
" 7 days	****
" 8 "	****

(2) On Staphylococcus Pyogenes Aureus.

Glycoboron Solution added	100 %
After 1½ hours	****
" 24 "	****

(3) On Anthrax Spores.
No effect, even in full strength.

E. Experiments with Carbolic Acid.

These six experiments were made parallel with those to determine the inhibitory action of styrone and sulphonaphthol on the staphylococcus pyogenes aureus. A saturated solution of carbolic acid was prepared and used in the same manner as the solutions in the former experiments. Temperature 37° C.

Carbolic Acid Sol.	0.8 %	1.6 %	2.4 %	4 %	5.6 %	8 %
Growth after 24 hours,	****	****	****	****	***	*
" " 5 days,	****	****	****	****	****	***

THE CLINICAL HISTORY OF ARSENICAL POISONING.[1]

BY A. F. HOLT, M.D., CAMBRIDGEPORT.

ARSENIC is by far the best known of all poisons, there being hardly a person in the community but what is familiar with its deadly properties. It can not only be had for the asking at nearly all the street corners, but it is even extensively advertised in the form of rat-poison and Paris-green for the destruction of potato-bugs. It is tasteless and odorless, and can readily be mixed with most kinds of food, both solid and liquid.

These facts, no doubt, in a large degree account for the almost daily occurrence of cases of arsenic poisoning both suicidal and homicidal. For the perpetration of both these crimes it is probably used oftener than all of the other poisons combined, and its use for such purposes is constantly increasing. In my own limited experience in the last four years, sixteen cases have occurred, nine of these were probably cases of murder, the remaining seven being suicides or attempted suicide.

The exceedingly common use of this substance for criminal purposes makes the subject of arsenical poisoning not only one of great interest to the medical jurist, but also one of which he must have a thorough and critical knowledge for a proper performance of his duties.

The first suspicions of a criminal case of poisoning with arsenic, and it is only with such that the medical examiner has to deal, are usually aroused at the bedside of the victim; and as such suspicions must often be confirmed or dispelled by the clinical history of the case alone, such a history becomes of great medico-legal importance. Such cases are, as a rule, fairly typical and well-marked, most of them following the same general course and presenting the same prominent symptoms. Unfortunately, however, some of the diseases that result from natural causes present the same general symptoms, and to distinguish between these is always difficult and often impossible.

[1] Read before the Massachusetts Medico-Legal Society, October 3, 1888.

No better evidence of this can be had than that presented by the notorious Robinson cases. Here were eight cases of criminal arsenical poisoning, seven of them occurring within a period of about five years in one family, and the other in a near relative. All of these cases were treated by physicians of large experience, most of whom are among the very best in our profession, men who, as careful and accurate observers, stand in the very front rank. Yet the real cause of the sickness and death of these victims was not even surmised until a chain of circumstances, unknown, of course, to the physicians, came to the knowledge of the associates of the Robinson family. There was no suspicion of arsenical poisoning in these cases, and nothing to excite such suspicion except the symptoms presented by the patients themselves, and these could readily and properly be accounted for by diseases of every-day occurrence.[2]

Reports of cases of arsenical poisoning are scattered through the medical journals that have been issued within the last forty or fifty years, and such reports comprise very largely the literature of this subject, so far as the clinical history of such poisoning is concerned. All kind of symptoms have been reported to result from an overdose of this substance.[3] Some medico-legal writers have divided these cases into periods, some of one time and some of another; while others have described them as acute and chronic; and the symptoms that are described by writers on the subject represent nearly all the ills that flesh is heir to. No one has attempted to reduce them to order, and I am sure no successful effort could be made to eliminate from them a clear and concise description of the clinical history of arsenical poisoning that would apply to all, or even a majority of such cases. No such effort to eliminate from the mass of symptoms ascribed to arsenic a clear and detailed description of such poisoning will be made in this paper, for the writer has had no better opportunities of observing cases of this sort than his predecessors, and only an attempt will be made to describe such symptoms as will probably occur in such cases, and the order in which they appear, symptoms that should at least

[2] There has been a good deal of adverse criticism, not only on the part of the community at large, but in the public press, both as items of news and in editorials, because the physicians in attendance on these cases did not discover their real cause, or at least have their suspicions aroused. The general impression is that they were all treated, or at least most of them, by the same physicians. This, of course, was not the fact. The guilty mother was very careful not to employ the same physician twice; and, in ordering a consultant, she always sent for a different one each time. Not only this, but no more than two of the victims died in one house or one neighborhood. But even had one physician treated them all, his suspicions might not have been aroused. There never was a breath of suspicion on the part of the friends of the Robinson family, who must, of course, have known of all the deaths and the circumstances surrounding their occurrence. As the sickness of these unfortunate people was like that of diseases from other causes than arsenic, diseases, too, of common occurrence, why should the suspicions of the physicians have been aroused more than that of the friends? Doctors are not looking for a murderer behind the door of every house they enter, where there is vomiting, purging and other gastric disturbances the cause of which does not readily appear. A physician who has no more faith in humanity than this, has certainly mistaken his calling, and such an one would be unworthy of confidence or respect.

The people and the press that have made these unjust criticisms forget that cases of poisoning with opium, strychnia, the strong acids, and, in fact, those produced by all the other poisonous substances, are almost invariably detected at once by the physician, even if he has never seen a case of poisoning. The reason of this, of course, is, the symptoms produced by most poisons are clearly defined and distinctive, while those produced by arsenic are not so, but are like those produced by many other causes.

[3] Many unquestionably, even if not a large majority, of the cases of arsenical poisoning that have been reported in the medical journals were observed by men little used to habits of close observation, and less to recording what they saw, and this fact may account for some of the symptoms that have been referred to arsenic; still there can be no question but what under different circumstances of administration, and in different individuals, the results may be variable and widely different in different cases.

arouse our suspicions of arsenic poisoning where they cannot be clearly and definitely accounted for in some other way.

Arsenic is both a narcotic and irritant poison: sometimes one set of symptoms and sometimes the other, may prevail. It has a specific effect upon the mucous lining of the stomach and bowels, and this effect is produced whether the poison is swallowed or administered in some other way, as for instance, where a considerable quantity is applied to an ulcerated surface.

The time between the taking of a poisonous dose of arsenic and the occurrence of the first symptoms is variably stated as being from a few minutes to sixteen hours, depending upon the condition of the stomach. The real cause of the great difference in time in producing poisonous effects is, I believe, largely due to the sparing solubility of arsenious acid (the form in which this poison is usually taken). If, for example, the stomach is covered with mucus, or contains some mucilaginous material with but little water, or if it contained semi-solid food of any kind, the crystals of arsenic might readily become imbedded in it and remain for a considerable period before enough would be dissolved to produce poisonous effects. The usual time for the first evidences of the effect of the poison to appear is from half an hour to an hour. They are rarely delayed more than two hours, and almost never appear sooner than twenty minutes. A single case has been reported where the vomiting and pain occurred almost as soon as the poison was swallowed.

The symptoms of arsenical poisoning as given by one author are as follows: "The symptoms produced by the poison are an austere taste; fetid state of the mouth; frequent ptyalism; continual hawking; constriction of the pharynx and œsophagus; the sensation of the teeth being on edge; hiccough; nausea; anxiety; frequent sinkings; burning pain at the præcordia; inflammation of the lips, tongue, palate, throat, bronchi, and œsophagus; irritable stomach, so as not to be able to support the blandest drinks; vomiting of matter, sometimes brown, at other times bloody; black, horribly fetid stools; small, frequent, concentrated and irregular pulse, but occasionally slow and unequal; palpitations; syncope; insatiable thirst; burning heat over the whole body, or a sensation of icy coldness; difficult respiration; cold sweats; suppression of urine; scanty, red, bloody and sometimes albuminous urine; change in the countenance; a livid circle around the eyelids; swelling and itching of the body; livid spots over the surface, and occasionally a miliary eruption; prostration of strength; loss of feeling, especially in the feet and hands; delirium; convulsions, often accompanied with insupportable priapism; falling off of the hair, detachment of the cuticle, etc. In some cases there is inflammation with burning pain in the urino-genital organs. Occasionally the symptoms have a perfect resemblance to those of Asiatic cholera, in a stage of collapse." This author further says: "It is very rare to observe all these symptoms in a single individual," and, "that sometimes they are nearly all wanting, death taking place without any pain or prominent symptom."

From such a confused mass of symptoms as these, indicating disturbance in every part and every vital organ of the body, and these perhaps presented in all conceivable combinations with nothing else to arouse his suspicions of arsenic poisoning except the condition of his patient, how is the physician at the bedside to determine that the case with which he is dealing is one of arsenic poisoning? or how is he to have his suspicions aroused in this direction? Certainly not from arranging in his mind, and keeping before him for instant use, such a confused mass of ills as are here enumerated, as such an attempt could only lead to failure, but rather, I believe, by the careful consideration of the prominent symptoms produced by arsenic, and the order in which they occur.

The first symptom that occurs in these cases and one that all agree is usually present, is a feeling of faintness or weakness. This comes on in a half-hour or an hour after swallowing the poison, and continues until the more marked symptoms are manifest. This faintness is, I believe, from the physiological effect of the poison. The next prominent symptom, and one, too, that is almost always present, the exceptions being very rare, is vomiting. This usually occurs in from a half-hour to two hours of the ingestion of the arsenic. Occasionally this symptom is delayed; but the above rule would, I believe, include nine-tenths of these cases. The vomiting is violent and incessant, almost always continuing, if the case proves fatal, until death. The vomitus, after the stomach has been first emptied of its contents, consists of a watery secretion mixed with glairy mucus, bile and sometimes streaks of blood. This vomiting is almost sure to occur whenever anything is taken into the stomach. It is accompanied by a severe and pretty constant retching and a burning pain. The pain is referred to the region of the stomach and lower part of the chest. In one case that came under my observation, the patient complained that "she was burning up inside."

Pain in the stomach and vicinity is one of the most marked signs of arsenic poisoning, and is rarely absent: usually it is of the burning character above referred to. This continues to the end. Another pronounced symptom is dryness of the throat and mouth, and great thirst. The patient is constantly calling for water, although he knows that the drinking is sure to excite vomiting. The next prominent symptom to appear, and one that is almost always present also, is the great tenderness on pressure over the region of the stomach. This tenderness is usually very acute, the patient often crying out at the least touch. This symptom is, I believe, one of the most typical of arsenic poisoning. It does, of course, occur in other forms of gastric irritation, but generally it is not so acute, and such cases almost invariably have a very different history. This acute tenderness accompanied by vomiting, pain and thirst, coming on suddenly in the absence of any known cause, should be considered good ground for suspicion, at least of metalic poisoning.

The next prominent symptom is diarrhœa. This occurs in from one to three hours. The stools are at first yellowish and very loose, afterwards they may become watery and at times bloody. Often there is great and continuous tenesmus, with only the discharge of a little blood. This symptom of looseness of the bowels is not always present. In two cases that came under my observation, there was no discharge from the bowels; both of these terminated fatally in about eight hours. In another case, that of a girl sixteen years of age, a profuse watery diarrhœa came on soon after the vomiting, and continued up to within an hour of her death, which occurred in about six hours from the commencement of the poisoning.

The above symptoms usually continue from two to

five or six hours, when the pulse becomes quick and feeble, the skin cold and clammy, and perhaps covered with profuse perspiration; the face is pinched; in a word, the victim falls into a state of collapse, in which he may remain for some hours, death usually occurring however, in from five to ten hours after the ingestion of the poison. During the last hours of life there is often cramps (particularly in the legs and arms), low delirium, coma and sometimes convulsions. In some of these cases these symptoms continue twenty-four hours, and rarely longer, although all authors agree that a very large proportion of them terminate in nine or ten hours. In cases where the death is deferred four or five days, the vomiting continues, particularly when anything is taken into the stomach. The skin is dry and hot, and after a day or two becomes sallow and sometimes jaundiced; the eyes yellow; the tongue dry and cracked; and the lips and gums bleed readily. The pulse is small and quick; the stomach and bowels are distended and tender; the urine is diminished in quantity, and often contains a large amount of albumen; the cheeks are sunken; there is often delirium and great prostration; until at last the patient sinks into a state of collapse, as in the more acute cases, and dies.

This class of cases is much more likely to escape detection than those where death occurs in a few hours, as the effects are much less pronounced, and some of the symptoms may be absent, or so slight as to attract but little attention. Often there is little or no appearance of a fatal issue for the first two or three days, or until the fatty changes in the liver and kidneys has seriously complicated the case by bringing about a series of symptoms, the result of such changes.

In another class of cases the poison seems to act as a narcotic, the victim complaining of little or no pain or nausea, but sinks into a sound sleep, soon becomes comatose, sometimes convulsed, and in a short time dies. It is this class of cases, and those that rapidly fall into a state of collapse after the pain and vomiting appears, that are the most speedily fatal.

In five cases of which I have had intimate knowledge, they have all died in less than nine hours from the inception of the poisoning. In three other cases of poisoning with Paris-green, used for the destruction of potato-bugs, recovery took place, although in one case more than a dessert-spoonful was swallowed; the explanation of this escape probably being, that the stuff called Paris-green used by the farmers, is made up largely of adulterations. The other ten cases that have come under my observation, including the Robinson cases, have lived from five days to six weeks from the time evidences of poisoning were first observed. These deaths were all homicides, and in eight of them the poison was administered by one hand. It is certainly very extraordinary that all of these cases should so widely differ, so far as the deaths are concerned, from the usual rule in cases of arsenical poisoning. In some of these, undoubtedly, the dose was repeated, and perhaps more than once. To me there is no more remarkable fact connected with this notorious series of crimes (the Robinson cases) than this one. How a woman, ignorant of the effects of arsenic except to know that it was a poison, could so graduate the dose in eight successive cases as to delay the fatal issue from six days to six weeks, is beyond comprehension. It was undoubtedly this anomalous result that enabled her to conceal her crime so successfully. One of the deaths was certified as caused by pneumonia, one by typhoid fever, one by meningitis, one by bowel disease, and one by kidney disease.[4] Had the clinical history of one of these cases been the usual one of arsenical poisoning, with a fatal issue, it is more than probable that the real cause of death would have been detected. The causes of death in arsenic poisoning are the physiological effect of the drug, shock, and irritation of the intestinal canal and other organs. It may be from one of these alone, or from two, or from all of them combined. Cases of death that occurred from this cause within one hour of the poisoning, or even those that occur later, where no irritant effects have been observed, are from the physiological effect of arsenic; those occurring later, and within eight or nine hours are usually from the physiological effect and shock; while those that occur in three or four days are from irritation and the consequent inflammation, perhaps combined with physiological effects on the liver and kidneys. The diseases that may simulate arsenic poisoning are cholera morbus, colic with vomiting and gastric irritation from other causes. The points of distinction between these and arsenic poisoning, so far as their prominent symptoms are concerned are not well-marked; still, when the whole history of a case of either of these ailments is carefully compared with one of arsenic poisoning following the usual course, there usually are points of sufficient difference to enable one to make a differential diagnosis with a tolerable degree of certainty. For instance, the pain of colic or cholera morbus is usually paroxysmal and griping, or hard; while the pain of arsenic is burning and continuous. There is not often tenderness in either of the former, while this is a well-marked symptom of the latter. The vomiting of arsenical poisoning almost always is the first serious symptom; and this (and the retching) is continuous, or is repeated at short intervals; while that of cholera morbus and colic, if it occurs at all in the latter, comes on later, the pain almost invariably preceding it.

Thirst is a prominent symptom in arsenic poisoning while it is often absent in cholera morbus and colic. The diarrhœa of arsenic comes on after the other symptoms are well established; in the diseases we are considering, it is often the first sign of disturbance. Cholera morbus and colic usually respond readily to remedies, the pain and vomiting ceasing; and health is rapidly restored. And they are almost never fatal, except in the old and feeble; while, in arsenic poisoning, the case goes on from bad to worse, in spite of treatment, to a fatal issue. Therefore, the severity of symptoms is another of the cardinal points in differential diagnosis. Cases of gastric irritation of severe type, may, under certain circumstances simulate arsenic poisoning very closely; but fortunately such severe irritations are of rare occurrence, and usually they can be traced to some well-marked and definite cause. Cases where such well-marked cause does not appear should at once arouse suspicion of metallic poisoning. In such cases, where the vomiting continues without apparent cause, the settlings of vomitus should be examined for crystals of arsenic, and sent to

[4] It perhaps should be further stated that in all of these cases the guilty mother selected a time to administer the poison when they were sick. For example, the sister had been suffering nearly a week with pneumonia before Mrs. Robinson saw her; the husband, whose case was supposed to be one of typhoid fever, came home from Boston suffering so severely with pain, nausea and vomiting that a physician was at once sent for; while Willie, the last victim, was under medical treatment from the result of a fall.

a chemist for analysis. This matter, however, belongs to the medico-legal considerations of arsenic poisoning rather than to its clinical history.

In cases of arsenic poisoning where death does not occur for some days, the prominent symptoms, as has already been said, are usually less well-marked: consequently the diagnosis is more difficult. Such cases can only be determined by a careful consideration of their histories and surroundings, examination of the vomitus for crystals of arsenic, and chemical analysis of the urine, as this poison is largely eliminated by the kidneys.

Chronic arsenical poisoning occurs occasionally from the repeated administration of small doses, although there is little likelihood of this being attempted for purposes of crime, except possibly by one thoroughly familiar with its action. These cases may present all the symptoms of the acute form of poisoning, although usually in a mild degree; and to these may be added extreme nervousness, trembling, paralysis (particularly of the hands or feet), tingling in the fingers and toes, a vesicular eruption on the body or limbs, suffusion of the eyes, ulceration of the mouth, jaundice, strangury, etc. The patient becomes emaciated, prostrated, and finally dies from exhaustion, or disease of the kidneys. One of the Robinson cases was of this kind, the patient, a girl twenty-two years of age, living six weeks after the first symptoms of poisoning showed themselves. In this case there was paralysis of both feet, and the urine contained albumen and casts.

As has been already said, there are no distinctive symptoms of arsenic poisoning, and one can only be certain he is dealing with such a case when the poison is found in the vomitus or urine, or there is other proof that it has been administered. The physician should be reasonably alert in trying to determine the causes of cases that come under his observation where there is vomiting, purging, pain, etc.; but it is no part of his duty to suppose that all such cases are the result of metallic poisoning.

LATENCY OF ATAXIC SYMPTOMS IN CASES OF OPTIC ATROPHY.[1]

BY G. L. WALTON, M.D.
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IT has been long noted that optic atrophy, when present in locomotor ataxia, appears generally among the earlier symptoms. Indeed, given a case of optic atrophy without recognizable cause, the chances are altogether in favor of characteristic pains, bladder irregularities, or other symptoms, appearing later, which, even if not marked, will enable us to place the case under this category.

Charcot[2] emphasizes the fact that most women coming to the hospital with amaurosis develop sooner or later, in the majority of cases, ataxic symptoms, perhaps ten, perhaps fifteen years later. In one case cited, the blindness was followed in ten years by shooting pains and girdle pains, these symptoms remaining stationary for ten years more, when appeared symptoms of muscular incoördination.

Gowers[3] mentions cases of his own in which optic atrophy preceded ataxia by sixteen and twenty years, and quotes a case reported by Buzzard,[4] in which atrophy existed fifteen years, associated only with lightning pains and loss of knee-jerk.

In his recent text-book, Gowers[5] has stated that atrophy of the optic nerve so universally appears early in the disease, that, after the ataxic gait is fairly established, it is of rare occurrence. Conversely, he states that when optic atrophy has become developed, it is common for the other symptoms of locomotor ataxia to remain in abeyance. To use his own words, "In a large number of cases, the ataxia never comes on, the spinal malady becoming stationary when the nerve suffers." If this is true, its bearing on the question of prognosis is of considerable import. It is certainly something to be able to assure a patient, at any stage of this disease, of his probable, or even possible, immunity from any of its distressing symptoms. In the matter of diagnosis, also, the subject is worthy of consideration.

I have looked through the records of sixty-six consecutive cases of locomotor ataxia, — fifty-two seen in the Neurological department of the Massachusetts General Hospital, and fourteen in private practice, — in the hopes of throwing additional light on this branch of the subject. The result is as follows: Out of the sixty-six cases, the diagnosis optic atrophy was found in fourteen; and six more had decided loss of eyesight. In these six there was no description of the optic nerve given in the notes, which prevents their being classed with certainty under the cases of atrophy, although undoubtedly some, and perhaps all, of them belong there. Out of the fourteen cases of optic atrophy, the degree of incoördination was mentioned in eleven. In three of these eleven, there was no ataxia; in five, it was slight; in three only was there marked ataxia. In the eight cases in which the ataxia was slight or wanting, the duration of the disease was respectively, two, three, four, seven, eight, ten, twelve and twelve years. In nine of these fourteen cases, the knee-jerk was noticed. It was present in one or both legs, in four out of the nine; and in one other case, where the loss of eyesight was so considerable as to leave little doubt that optic atrophy was present, the knee-jerks were normal. In all of the cases the disease was well advanced. These figures, while far too incomplete to be regarded as statistical, are still of some interest, sufficiently so to encourage further investigation.

The noticeable features are the large proportion of cases in which the knee-jerk was retained in one or both sides, and the large proportion in which ataxia was either absent or very slight. With regard to the ataxia, this has been already considered by neurologists as a symptom not necessary to the diagnosis, hence the tendency to restore the name "tabes dorsalis" in preference to locomotor ataxia. The point to which I would call attention is that to which Gowers has practically alluded, namely, that it is the cases in which optic atrophy is present in which we may expect to find the absence or indefinite postponement of ataxia. Again, with regard to the preservation of the knee-jerk, the loss of knee-jerk in locomotor ataxia is, as a rule, one of the earliest and most constant symptoms, a fact which lends considerable significance to its preservation in four out of nine (probably five out of ten)

[1] Read before the Boston Society for Medical Improvement, April 8, 1889.
[2] Leçons sur les Maladies du Système Nerveux, 1880, t. ii, p. 41.
[3] Gowers' Medical Ophthalmoscopy, p. 164.
[4] Brain, 1878, No. 2, p. 168.
[5] Diseases of the Nervous System, 1888, p. 293.

cases where optic atrophy was present. The practical bearing of these facts is to assist us in both diagnosis and prognosis. As regards diagnosis, they would lead us to place with confidence under the head of locomotor ataxia certain cases of optic atrophy which we may have hesitated to place there on account of the presence of knee-jerk and absence of ataxia. As regards prognosis, they would lead us to predict a comparative latency of the motor symptoms of the disease where optic atrophy has become pronounced.

The constancy of one symptom was noticeable in the cases with optic atrophy as in those without it, namely, the Argyle-Robertson pupil. This symptom, together with characteristic pains, may, it seems, be looked for early in this class of cases, however latent the motor symptoms. If the Argyle-Robertson pupil were dependent on optic atrophy, it would be expected particularly in these cases; but its constancy in the other cases shows it to be independent, at least in general, of the lack of conducting power in the optic nerve, a fact already well recognized.

It is worthy of note, that, out of sixty-six cases taken indiscriminately, there were fourteen with the diagnosis of optic atrophy, and several more in which it was probably present. Statistics on this point vary greatly. Erb found eight cases in about seventy, while Topinard noted disturbance of vision in forty-nine out of one hundred and two, and Cyon found sixty cases with amblyopia and amaurosis out of two hundred and three. The statistics of more recent observers also vary markedly. The figures of oculists would naturally run higher than those of neurologists. Gowers states that the proportion is much less than is generally believed, certainly not exceeding one case in ten.

I have selected three cases to report this evening, premising that they are presented, not as being in any way unique, but as fairly representing the class of cases under consideration.

CASE I. J. C., aged forty, married, an engraver. Referred to me at the Massachusetts General Hospital, by Dr. Standish, under whose care he is at present. Four years ago he began to suffer from recurring pains in both knee-caps, without swelling or redness, and not increased by movement. He describes the pains as shooting and stinging, lasting only a few minutes. Similar pains appeared later in the thigh and in the toes of the left foot. Six months ago he noticed failure of eyesight, which rapidly progressed to almost complete blindness within three months. There have been bladder irregularities, but no absolute incontinence. There have been no laryngeal nor gastric crises. He tires easily in going up stairs, and has done so for four or five years. He has never noticed any staggering or numbness. He never saw double.

Physical examination shows absence of tendon reflex on the left, a trace on the right. Both pupils react to accommodation, neither to light. Both pupils are small, the left smaller than the right (said by the patient always to have been so). There is no trace of impairment of any variety of sensation, not excepting muscle sense. There is no special loss of nutrition. The gait is perfect, and the patient stands on either foot without swaying, also with both feet together and the eyes shut. Ohpthalmoscopic examination by Dr. Standish, as well as by Dr. Wadsworth, who saw him at the hospital, shows characteristic optic atrophy. The vision is now so reduced that he can only count fingers with the right eye at four feet; vision in the left eye being 0.4, not improved by convex or concave glasses.

CASE II. Mr. ——, aged forty-seven, married. Referred to me for examination by Dr. Chandler. He has also been examined by Dr. Wadsworth and Dr. Prince. Has had weakness and pains in the back since 1864, when he was injured by the blowing up of a vessel. He first noticed trouble in sight in 1879, which increased steadily. He can now with the left eye, barely count fingers at a foot: with the right eye, there is perception of light only. Since 1882 he has had pains, sometimes very severe, perhaps three or four a year; lighter attacks of pain often, lasting ten or twelve days. These pains are generally in the back of the legs and in the hips. During the past eight or nine years a pain runs up the back to the head. This pain comes quickly and recurs perhaps a dozen times a day. Sharp, throbbing pains appear in the legs, lasting from an hour or two to several days. The locality of these pains varies; for example, one day in one foot, one day in the other, again about the knee, no swelling or redness accompanying the pains. In 1885, he saw double for six weeks. There has been no bladder trouble, no laryngeal or gastric crisis, no numbness, nor weakness in the legs; occasionally a slight tendency to stagger. Twelve years ago he had what was considered a chancre, not followed by eruption or falling out of hair.

Physical examination shows the knee-jerk absent in the right, present in the left. There is no swaying with the feet together and eyes shut. He stands well on either foot with the eyes open, and fairly well on each foot with them shut (which is a difficult test). The lightest touch is felt everywhere. The plantar reflex is present. The right calf measures 15¼ inches, the left 15⅝ inches. The right pupil is larger than the left; neither reacts to light, both to accommodation. There is external strabismus in the right eye. The left field is cut off nearly to the horizontal meridian, and moderately contracted in other directions. Ophthalmoscopic examinations by Drs. Wadsworth and Chandler shows gray atrophy of the optic nerve, more pronounced in the right. The pulse is 106. There is no scar on the penis, but the frænum is wanting (said to have been burnt off).

CASE III. A. D., aged thirty-one. Referred to me for an opinion by Dr. Chandler, and afterwards by his attending physician, Dr. Cutter, of Leominster. He has also been examined by Dr. Knapp. He first noticed trouble in sight seven years ago, and has steadily lost vision up to the present. The only other symptoms complained of, are occasional pains in legs and feet, occasional dizziness, occasional attacks of gastric pain and vomiting (crises?), and a tendency to tire rather easily, with occasional slight unsteadiness. He also states that his water occasionally escapes, and that he sometimes holds it all day without desiring to pass it. There is no definite specific history, but he states that there was considerable falling out of hair after an attack of gonorrhœa twelve years ago. No sore was noticed, and no other secondary symptom.

Physical examination: There is a slight trace of knee-jerk on the left, none on the right. The pupils are unequal, and react to accommodation, not to light. There is no impairment of sensation; no wasting; slight ataxia. Dr. Chandler finds marked optic

atrophy. With the right eye he cannot count fingers. The vision in the left eye is .9.

In these cases will be noted not only absence or partial absence, of ataxia, but also that of sensory impairment, at a stage when these symptoms would be expected. It will also be noted that the knee-jerk was not entirely lost in either of the three cases. It is also noticeable that nutrition is unaffected, the patient in one case (Case III) especially, being a stout, well-nourished man, with calves measuring over fifteen inches. This is an exceptional condition in well-advanced locomotor ataxia, although this disease is not characterized by distinct wasting of muscles and groups of muscles, as are diseases affecting the peripheral nerves or the anterior cornua of the cord. The importance of these points in diagnosis is illustrated by the fact, that in two of the cases, considerable doubt has arisen in the minds of consultants as to the nature of the underlying cause of the optic atrophy.

Acting upon the suggestion offered by Dr. Webber in the discussion of this paper, I append a brief abstract of the symptoms in the cases of optic atrophy.

CASE IV. M. R. Numbness and darting pains for two years; delayed micturition; knee-jerk absent; pupils unlike. Argyle-Robertson pupils; pulse 102; vision blurred, field normal; discs opaque, with sharply defined vessels, especially right.

CASE V. T. M. Atrophy of optic nerve, twelve years; staggering during past eight weeks; Argyle-Robertson pupils; knee-jerk normal. During seven or eight years, beginning about fifteen years ago, patient was subject to attacks of vomiting about twice a week.

CASE VI. Pains, twelve years; pupils unlike, Argyle-Robertson pupils; knee-jerk absent; slight staggering with closed eyes; optic atrophy, (*b*) V = $\frac{1}{10}$ (*b*).

CASE VII. A. F. Darting pains in legs, seven years; bladder troubles, one year; diplopia and loss of sight, seven years; complete blindness, two and one-half years; vomiting, six years; pupils unlike, Argyle-Robertson; knee-jerk absent; slight ataxia; no anæsthesia.

CASE VIII. C. G. (female). Pains, eight years; failing sight, eight months; bladder irregularities; Argyle-Robertson pupils; loss muscle sense and slight loss tactile sense in middle toes (b); slight unsteadiness; stands fairly well with feet together and eyes shut; ophthalmoscopic examination by Dr. H. W. Bradford shows optic atrophy of both eyes.

CASE IX. W. F. B. (female). Shooting pains, seven years; weakness in legs, several years; staggering, one year; loss of muscle sense; loss of vision, one year; cannot count fingers with left eye; with right eye, vision one-third.

CASE X. N. B. Pains and ataxia, two years; loss of sight lately; knee-jerk absent; tabetic knee joint; slight optic atrophy.

CASE XI. P. C. Pains, a number of years; slight failing, two years; slight bladder irregularities; vision almost lost in left eye, greatly diminished in the right; color sense almost absent (cannot distinguish light blue from red even in the centre of the field).

CASE XII. C. F. Pains in legs; Argyle-Robertson pupils; pupils unlike; scarcely any ataxia with eyes closed; well-marked atrophy of optic nerves.

CASE XIII. F. K. Failing sight, two or three years; now, perception of light only; pains one year; Argyle-Robertson pupils.

CASE XIV. Gradual failing sight, one year; Argyle-Robertson pupils; pupils small; very slight ataxia; shooting pains in legs; well nourished; knee-jerks absent; marked optic atrophy both; (V. O. D. = $\frac{1}{50}$ V. O. S. $\frac{2}{10}$) nerves white; edges of disc well defined; retinal arteries and veins decreased (Dr. Cheney).

The description of the optic nerves in a few of these cases is such as to leave the diagnosis not absolutely certain. In the majority, however, the loss of sight is too great to admit of question. Whatever may be deducted from the number on account of uncertainty may be offset by the cases in which complete records are wanting, and among which exist, probably, certain cases of atrophy. In any event, the character of the investigation precludes reaching absolute statistics.

DEMENTIA FOLLOWING ETHER.[1]

BY JOHN HOMANS, 2nd, M.D.

MANIA subsequent to an injury or surgical operation has long been recognized, — an article on the subject having been written by A. Schroetter in 1804, — but, as a rule, was supposed to occur in alcoholic subjects or in those with diseased kidneys. Within a few years also, cases of mental disturbance following a surgical operation have been attributed to the antiseptic used, as iodoform or a strong solution of corrosive sublimate. Operations on the genital tract in women have occasionally been followed by mania; but here the cause may properly be found in the peculiar sensitiveness of the female genitalia to surgical interference, a case in point being one of sub-acute mania following the introduction of a speculum.

The object of this paper is to put on record two cases in which the mania seems to have been largely due to the administration of ether, as none of the above-mentioned factors were present. My attention was first called to this subject when a house pupil in the Massachusetts General Hospital by the first case to be reported, and latterly by an able paper by Dr. G. H. Savage,[2] which presents a careful study of the subject, and in which he classifies his cases into acute and sub-acute. The two cases which I present fall into the latter or sub-acute form.

The first case is that of a domestic, thirty-five years old, of a nervous temperament, who was operated upon at the Massachusetts General Hospital, in 1881, for cancer of the breast. The operation, history and appearance of the patient presented nothing extraordinary. The second case was a single lady of over fifty, suffering under the uric acid diathesis, and belonging to a somewhat nervous family who, in 1884, underwent the ordinary operation for fistula in ano. The cerebral symptoms appearing after the operation were so nearly similar in both cases that I present them together, the only difference between the two being that of the time at which the various symptoms appeared or disappeared, and that difference only a few hours, or, in the ultimate recovery, a day or two.

The history of these patients after the operation

[1] Read before the Boston Society for Medical Improvement, April 8, 1889.

[2] Brit. Med. Jour., December, 1887.

was as follows: For two days, a condition of euthanasia; patient remarkably happy and comfortable; no pain or discomfort; slightly flushed face; pulse and temperature only slightly raised above normal. On third day, patient a little excited; mind wandered a little, which condition increased till, on fifth day after the operation, the mind was completely gone; patient tried to get out of bed, or tear off the dressings, and constantly talked or muttered to herself, but with a mild, disconnected delirium, no especial delusions being noted. This condition lasted for about a week, when a gradual improvement began; and in about five weeks after operation the mind was perfectly clear. The first case died in a year or two of recurrence of the cancer, but without any mental trouble. The second patient is now alive and well, both physically and mentally. Here, then, are two cases, both women with somewhat neurotic tendencies, falling into the same demented condition after a not especially severe operation, and both recovering at about the same time.

That delirium tremens or mania sometimes follows surgical injury in alcoholic subjects is almost a medical axiom, and the temporary effect of ether is much the same as that of alcohol. We often tell the friends of a patient recovering from ether that they are not to mind what he says, because he will "talk just as if he was drunk." The physiological disturbances produced by the two drugs being somewhat the same, it seems a reasonable conclusion that their exhibition may give rise to true pathological conditions which strongly resemble each other. The use of drugs other than these two occasionally produces mania, as belladona, a case being mentioned by Dr. Savage in the paper above mentioned. In view of these various facts, therefore, I think it is justifiable to ascribe the prime cause of the dementia in these two cases to the inhalation of ether, other factors being the nervous family history or temperament. It would not be wise to base any strong statement upon a few cases; but I think the surgeon about to operate on a neurasthenic patient should bear in mind the possibility of an attack of mania, accompanied, fortunately, by the probability of a complete recovery.

REPORT OF PROGRESS IN GYNECOLOGY.

BY F. H. DAVENPORT, M.D.,
Assistant in Gynecology, Harvard Medical School.

OPEN FALLOPIAN TUBES.

DR. JOHN WALLACE[1] has gradually come to the conclusion, that not only is the open condition of the Fallopian tube more common than is usually thought, but that it may be a normal post-partum condition just as subinvolution is, and that like that it only gives rise to symptoms when its return to a normal state is arrested. The tubes and ligaments generally increase in size markedly during pregnancy, and anything which retards their perfect involution, such as tight bandaging after labor, permitting the patient to rise too soon, tight lacing or heavy petticoats may result in a more or less patulous condition of the ostium uterinum of the oviducts. As symptoms of this condition, the author notes abdominal pain, numbness, cramps, bearing down, frequent micturition, and pressure upon the rectum. Physical examination shows a congested and œdematous cervix, uterus prolapsed or retroverted, and a profuse discharge of ropy, yellowish mucus. One or both ovaries or tubes are apt to be found in the retro-uterine pouch. A uterine sound may, with a little gentle manipulation, be made to enter the tube, and be passed up to the hilt. This manipulation causes little pain, and is an important part of the treatment.

The treatment in general is prolonged, and consists in rest in bed, hot douches, adjustment of pessary (if possible), catheterizing the tube once a week, and intra-uterine applications. The author gives a list of fifty-three cases in which he found this condition, all of which were cured.

[While we allow that this patulous condition of the tubes following parturition may be common, yet we fail to see that the symptoms the author describes are attributable to the state of the tubes. They are the common symptoms of subinvolution of the uterus. The open tubes seem to us merely a coincidence, and their catheterization not only unnecessary but even hazardous.— REP.]

[1] Brit. Med. Jour., February 23, 1889.

RAPID CURATIVE TREATMENT OF CYSTITIS IN WOMEN.

Dr. T. More Madden[2] refers to the prevalence of cystitis in women, and after a brief synopsis of the causes, symptoms, and general treatment, which contains nothing especially new, describes the method of radical cure which he has employed in chronic cases. He thoroughly dilates the urethra with a specially devised instrument, so as to admit the index finger, and for a time completely paralyze the sphincter. In some instances, he uses a dull wire curette to remove the proliferating vesical mucous membrane. In every case, he makes an application of carbolic acid, preferably in the form of the glycerine of carbolic acid of the pharmacopœia. This is "introduced by an ordinary stilette, armed with a piece of absorbent cotton saturated in the application, and passed through the dilator, so as to avoid any of the acid being brushed off in the canal before it reaches the fundus vesicæ, where it should be retained a couple of minutes until every part of the vesical wall contracts firmly upon it." The urethral canal should then be similarly treated. Pain may be relieved by cocaine. The author says that two or three applications, at intervals of a week, will usually cure the most aggravated cases. By this means the severe operation of Emmet, with its subsequent discomforts, is avoided.

[2] Brit. Med. Jour., March 2, 1889.

ACUTE MANIA AND MELANCHOLIA AS SEQUELÆ OF GYNECOLOGICAL OPERATIONS.

Dr. T. G. Thomas,[3] in this paper, places on record what he considers a "rather remarkable experience" as to the occurrence of acute mania and melancholia as sequelæ of gynecological operations. He, in the outset, distinctly states that he does not regard these states as complications, or necessarily as results, of the operative procedure, but merely as sequels which may or may not be dependent upon it; nor does he wish to be understood as claiming that gynecological operations are especially liable to such sequences.

After stating what he understands by acute mania and acute melancholia, he relates six illustrative cases,

[3] Med. News, April 13, 1889.

four of which belong to the first class, and two to the second. In four of them, there was evidence of eccentricity even before operation, though in none of them could Dr. Thomas discover evidences of hereditary tendency to insanity. Four of the six cases died, one completely recovered, and one was still in progress at the time of the report.

In current medical literature the author has succeeded in finding the account of twenty other cases of acute mental aberration following upon the performance of gynecological operations. The questions which are suggested by these facts are briefly: (1) Were these the direct result of the operations, or merely coincident states? (2) Is the proportion larger than would naturally occur in so many operations? (3) If the mania is a consequence how is it to be avoided? and (4) Are gynecological operations more likely than other surgical procedures to disturb the condition of the mind?

ON THE INDICATIONS FOR OPERATIVE TREATMENT OF DISEASED TUBES.

The author, W. A. Freund,[4] refers to the fact, that neither the knowledge of the anatomical conditions nor of clinical facts has kept pace with the skill in operating in cases of chronic inflammation of the pelvic organs. To throw some light on this obscurity is the object of this lecture.

Freund refers the variations in the forms of tubal disease, as well as the tubes themselves, to pre-existing anatomical peculiarities. As a result of careful investigation, he has enlarged our knowledge of the growth and changes in the shape of the tubes. As soon as the uterus is formed in the embryo, the tubes begin to twist spirally (from the uterine end laterally), like a corkscrew, until in the thirty-second week of intra-uterine life, they have reached their limit, and show usually six and a half distinct turns. The turn nearest the uterus is sharply defined, then follow two less marked, then three to four and a half like the first. As a result of too great a twist, irregularities may occur, and even sharp bends. From the thirty-second week, an unfolding of the spirals occurs, beginning at the median line and proceeding laterally. At birth, the portion of the tube near the uterus is only slightly wavy, the lateral curves well-marked. From birth on, the tube becomes straighter, until at puberty only the last curve, that near the pavilion, remains. This development makes the tube a patulous canal fitted for its function. If, however, this physiological development is interfered with at any point, pathological conditions result. It is rare that the tubes keep the form which corresponds to the new-born infant up to the time of completed growth. More commonly they are arrested at some stage of their growth, hence do not correspond to the age of the girl. It is rare that loops occur, and the tubes are usually alike on both sides. These grades of arrested development may exist with perfect integrity of the surroundings, and are to be clearly differentiated from the tubes bent by cicatricial bands. In these latter the canal can be with difficulty, or not at all sounded; it is frequently bent, narrowed or obstructed, and thin-wall cysts may occur in parts which are cut off. The ovum cannot freely pass through such a tube, hence danger of tubal pregnancy. Normal and abnormal secretions can be discharged with difficulty, or not at all. Such tumors of the tubes show the well-known sausage-like, irregular contours which correspond to the curves which have persisted. It is different with well-developed tubes. Here pregnancy can reach a much higher grade of development, even its normal end; retention of secretions form simple, oval, smooth sacks, sometimes of great size.

The clinical aspect of diseases of the tubes is made more intelligible by the light thrown on the anatomical relations. Well-marked lack of development of the tubes is an accompaniment of an infantile condition of the genital organs, even of the whole organization. Freund sketches the varying clinical features of the diseases of the tubes in well-developed and undeveloped women, and gives clear indications for the diagnosis of these affections.

There is also a difference in the prognosis. In affections of the abnormally developed tubes, it is materially worse than in diseases of normal tubes. In the latter, the treatment can usually be conservative; while in the former, extirpation of the diseased organs is often the only resource.

[4] Sammlung Klinische Vorträge, No. 323.

LAPAROTOMY REPEATED ON THE SAME PATIENT.

Dr. A. Martin[5] gives his experience in the repetition of laparotomy on the same person. He does not include those cases where, on account of some disturbance a short time after the operation, it became necessary to reopen the abdomen. In all there were twenty-four cases, ten of which were for trouble with the remaining ovary after one had been extirpated. These began two to nine years after the first operation. Seven times affections of the tube gave occasion for the second operation: these were partly cases which had become affected with gonorrhœa after the first operation. A third series embraced four myomata, which were not present at the first operation, but had developed rapidly. And, finally, there were three cases, two of which were in a certain sense connected with the first operation (fistulous track in the abdominal wound, ileus); and the third was for an extraperitoneal hæmatoma.

As regards the indications for and technique of such repeated laparotomies, the author advises against being led by the possibility of the necessity of a second operation to remove unnecessarily the other ovary, but to keep as much as possible; and the same with regard to the tubes, as long as they are pervious. On account of the frequency of adhesions to the old scar, he always makes the new incision at the side of the old cicatrix; and he raises the question how such adhesions are to be avoided, without, however, giving any definite rules.

PERMANGANATE OF POTASH IN AMENORRHŒA AND DYSMENORRHŒA.

Dr. Lwow[6] gives, in this article, his experience in the use of this drug. He divides the one hundred and eighty-seven cases into five groups. (1) Thirty-two cases of young, in general healthy, somewhat chlorotic, girls who complained of scanty and excessively painful menstruation. All were quickly cured by permanganate of potash, four to six grains a day, with extract of pulsatilla, taken a short time before the period. (2) Seventeen cases of women with superinvolution of the uterus following confinement, or with atrophy of uterus and ovaries. In the majority of these cases

[5] Zeit. für Geb. und Gyn., Bd. 15, Heft 1.
[6] Therapeutische Monatshefte, February, 1889.

about two years had elapsed since the last birth. The potash in the same dose, but given continuously for from three to six months, started the menstrual flow in from four to six weeks, which, with continuance in the use of the drug, took on its regular type. (3) Sixty-two cases of tardy involution of the puerperal uterus in connection with old inflammatory processes of the uterus and its neighborhood, menstruation rather scanty and painful. The results here were satisfactory, though in some cases there was no success, such cases being those in which the puerperal affection had left permanent changes. (4) Sixty-five cases of blenorrhœa of the vagina and uterus. Here the permanganate of potash had no result, in spite of its long-continued use. (5) Eleven cases of women with whom the menopause had begun too early, menstruation ceasing between thirty-five and forty. In these cases also the drug had no effect.

EXPERIMENTAL RESEARCHES ON THE CHANGES IN OVARIES AND TUBES OF RABBITS AFTER TOTAL EXTIRPATION OF THE UTERUS.

Dr. Grammatikati,[7] in view of the frequency of the operation of total extirpation of the uterus, has attempted by means of experiments on rabbits to determine the fate of the ovaries. For this purpose he removed, in some cases, the whole uterus; in others, the uterus and tubes; in still others, one horn, with or without the corresponding tube. In all cases he removed one ovary, in order to compare it with the other when that should be examined later.

He found as a result of these experiments, that, after the extirpation of the uterus, the ovaries continue to be active. The process of the ripening and the bursting of the Graafian follicles, as well as the formation of false corpora lutea, goes on without change.

He found the same to be true after both uterus and tubes had been removed.

That the same is true in women he considers probable from clinical observations. Young women on whom these operations have been performed before the change of life, show a variety of reflex symptoms, such as pain, nausea, vomiting, neuralgias, etc., which often assume a periodicity, and which may be explained by a persistence of the functional activity of the ovaries. This is not true of women operated on after the menopause.

Dr. Grammatikati had an opportunity to examine the ovaries of a woman whose uterus had been removed three years before, and found in them all the stages of development of the Graafian follicles and fully developed corpora lutea, with no sign of atrophy of the ovarian tissue.

— Dr. Henry M. Hurd, now superintendent of the State Hospital for the Insane at Pontiac, Mich., in the neighborhood of Detroit, has been appointed superintendent of the Johns Hopkins Hospital. *Science* says of him that his life has been devoted to hospital service, and he has acquired distinction as an administrator, and also as a writer. He was graduated in arts and in medicine at the University of Michigan, and has twice been called by his *alma mater* to a professorship of medicine. He has already visited Baltimore, and will permanently assume his new responsibilities on the first of August next.

[7] Cent. für Gyn., No. 7, 1889.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

F. B. HARRINGTON, M.D., SECRETARY.

MEETING of April 8, 1889. DR. W. L. RICHARDSON, President, in the chair.

DR. G. L. WALTON read a paper entitled

LATENCY OF ATAXIC SYMPTOMS IN CASES OF OPTIC ATROPHY.[1]

DR. J. J. PUTNAM said: I have little to add to what Dr. Walton has said. This group of cases represents a distinct type of the disease. I remember a similar case referred to me by Dr. Jeffries, where the eyesight was suffering greatly, and where we could discover no other evidence of locomotor ataxia. The first signs of this disease may show themselves, sometimes in one part and sometimes another, of the central and peripheral nervous system. A recent theory is that it is of cerebral rather than of spinal or peripheral origin. I should like to ask Dr. Walton if he believes that iodide of potassium could hasten the optic atrophy.

DR. HAY inquired into the relation between the locomotor ataxia and the atrophy of the capillaries of the disc.

DR. WADSWORTH: The cases of locomotor ataxia which have come under my observation have been, naturally, chiefly those in which sight has been affected or the ocular muscles paralyzed. As regards the sequence of symptoms, I have seen optic atrophy precede the other symptoms by many years, and I have known it to come on several years after the lightning pains, at least, had been present. I have also seen the knee-jerk present where there was well-marked ataxia and pains, as well as pronounced optic atrophy. One fact which has struck me is the comparative frequency with which intelligent patients speak of the failure of sight having been first noticed in dim light. As to the field of vision, to which Dr. Putnam referred, in my experience it presents great variations: it is often much contracted, but, on the other hand, with well-marked atrophy and decrease of central vision, it may not be at all reduced in size.

DR. MILES STANDISH: Cases of locomotor ataxia with an early appearance of optic atrophy are common, the consequent impairment of vision being the only symptom noticed by the patient in very many cases. As a rule, where the optic atrophy is such an early symptom, the ataxic symptoms progress slowly, and may even stand still for very considerable periods, as five, ten, or fifteen years. I believe that the use of iodide of potassium will retard the progress of the optic atrophy and consequent loss of vision. Two cases which I have been watching for a long time, and in whom the locomotor ataxia has not notably advanced during that period, have gradually developed a diplopia, which is, however, not constant in amount, but notably increased by fatigue. By the use of prisms, it has been possible for them to attend to business.

DR. HOOPER asked about the value of Charcot's method of suspension for the treatment of locomotor ataxia.

DR. WALTON, in closing the discussion, stated that his own experience with Charcot's method was limited

[1] See page 108 of Journal.

to one case, which he had seen in consultation with Dr. Knapp. Dr. Knapp had suspended the patient a few times only at the City Hospital, with, so far, negative results. The ataxia in this case was well advanced and it was not improbable that the effort of getting to the hospital tended to counteract the benefit of the treatment. With regard to the question of deafness in locomotor ataxia, Dr. Walton had investigated upward of forty cases, in many of whom deafness existed; but in none had there been deafness by bone conduction or loss of special tones, the deafness in every case being due to extraneous cause (cerumen, chronic catarrh of the middle ear, and in one case purulent inflammation with perforation of the drum-head). He had, however, found vertigo in a large number, with tendency to fall in certain directions, this symptom appearing and disappearing in some cases, like diplopia, and not sufficiently accounted for by either ocular or aural trouble. He had drawn the conclusion that the aural fibres of the eighth nerve were not specially liable to be attacked by the disease, but that it was not improbable that the fibres which preside over equilibrium, and which pursue a different course centrally, were subject to the sclerotic process. As to the question of iodide of potassium hastening optic atrophy, he was sceptical. The atrophy was liable in any case to advance with great rapidity, and he would hesitate in a given case to attribute the advance to the iodide. In fact, as Dr. Standish had suggested, its influence was as likely to be beneficial as the reverse. In the case quoted, the patient had become worse under nitrate of silver, and improved again under the iodide.

DR. JOHN HOMANS, 2nd, read a paper entitled

DEMENTIA FOLLOWING ETHER.[2]

DR. EDWARD COWLES said: Persons predisposed to insanity may in rare cases, have mania after anæsthetics. "It is the fact of the temporary disturbance of function, and not the means by which this is produced, which is of most importance" (Savage). The question as to the propriety of using anæsthetics should include neurotic and hereditary conditions.

Dr. Cowles related the history of a woman who had been brought to Somerville after having an operation for lacerated perinæum two weeks previously. She was "somewhat demented, confused and incoherent; had hallucinations of sight and hearing." Three weeks later she was discharged from the asylum, went home and continued well.

DR. H. R. STEDMAN said that the cases were striking ones, and seemed at first glance genuine cases of cause and effect. He was inclined to think this only partially true, however, as toxic insanity occurs (almost invariably) only after prolonged and excessive use of the poisonous agent, as is the case with alcohol and lead which are also far less evanescent in effects than ether. Moreover, genuine toxic insanity is of a different and more uniform type than that manifested in the cases reported. He thought, nevertheless, that the ether might hold a place as a factor, in the causation, together with the patient's evident predisposition to mental disorder, and the shock, so to speak, of the operation.

DR. J. J. PUTNAM said: I have not seen mental diseases after ether, but recall one case in which tinnitus aurium began immediately after etherization for examination, without operation, and has persisted for two years or more. Later, the patient became suddenly deaf in one ear. She was a nervous woman, and the intensity of the tinnitus and deafness can be made to improve for a time by strong impressions, though they never disappear entirely.

DR. STANDISH said that cases at the Eye and Ear Infirmary, after the operation for cataract, both after ether and after cocaine, sometimes wander about on the third or fourth day as if suffering from dementia. It is sometimes attributed to the atropine which has been used.

DR. C. M. GREEN: I recall the case of a woman operated upon for prolapse of the uterus. The patient on the fourth and fifth day got out of bed, ran about the room, and gave much trouble. I thought at the time that the mental aberration was due to the shock of the operation. It may have been due to the anæsthetic. I learned one fact from this occurrence; namely, that the stitches in a perinæum do not necessarily suffer because of movement on the patient's part. In this case there was no ill effect from the patient's being about on her feet, the stitches holding perfectly.

DR. JOHN HOMANS showed a

SLOUGHING VERMIFORM APPENDIX

from a case of appenditis, and referred to six other cases which he had recently operated upon.

AMERICAN OTOLOGICAL SOCIETY.

TWENTY-SECOND Annual Meeting, held at the Pequot House, New London, Conn., July 16, 1889.

The Society was called to order by the President, DR. J. S. PROUT, of Brooklyn.

The first paper read was entitled

INFLAMMATION OF THE TYMPANIC ATTIC AND PERFORATION IN SHRAPNELL'S MEMBRANE,

by DR. B. ALEXANDER RANDALL, Philadelphia.

The author reported 20 cases, 15 of which had been seen in the past six months, and urged that the condition was not a rarity. It often coexists with one or more perforations of the other parts of the drum-head. If sought and recognized early, it is a less tedious and serious matter than these attic inflammations are generally considered to be. He cited some 120 cases reported by several observers among 10,000 patients, and while he had seen a still larger proportion, accepted this as the average. Passing over the treatment as having been already thoroughly discussed, he turned to the question of causation, and cited the views of Walb, that infection from without through a "foramen Ravinii," was the starting-point. Contesting the view as to any colotomatous opening in the flaccid membrane as wholly negatived by modern embryologists, he urged that the individual variations in the septa in the attic predisposed some cases to localized inflammation, and led to perforation at this point; and that these cases, neglected or recurrent, formed the group from which the usual obstinate cases were derived. He therefore advocated scrupulous search in all cases for disease in this locality, as promising to nip in the bud what might later become disease notoriously difficult to control. The paper was illustrated by drawings and photographs of specimens.

DISCUSSION.

DR. S. O. RICHEY, Washington: I have frequently

[2] See page 110 of the Journal.

seen perforations elsewhere associated with perforations in Shrapnell's membrane. The presence of perforation in other parts of the drum membrane does not exclude its presence in Shrapnell's membrane.

Dr. J. O. Tansley, New York: I have never met with perforations of that part of the drum to which the doctor refers, associated with perforation in other parts of the drum. A singular thing is that we so rarely get the perforation whistle.

Dr. S. O. Richey, Washington: I do not think that perforations of Shrapnell's membrane are so common as has been stated. My experience with the absence of perforation whistle corresponds with that of others. I have had cases in which perforations in other parts of the drum healed, but the perforation in Shrapnell's membrane persisted. In treating these cases, besides using measures through the external auditory meatus, I have employed injections through the catheter, consisting of nitrate of silver one part, boric-acid ten parts, glycerine twenty parts, and water five hundred parts.

Dr. Gorham Bacon, New York: I have not observed this condition so frequently as Dr. Randall. It is often difficult to see these perforations. In treatment, I have generally used Blake's intra-tympanic syringe. By persistant syringing and the use of astringents, cicatrization is often produced. These cases are, however, very tedious.

Dr. J. A. Andrews, New York: In treating these cases in which there is purulent inflammation of the attic, with a large hole in Shrapnell's membrane, after injecting the cavity, I suck out the fluid by means of this instrument, consisting of a delicate metal tube with a curved extremity, to which is attached a rubber tube. I use simply a boric-acid solution. After sucking out the fluid, I dry it with cotton wrapped on a probe. I then blow in a fine cloud of boric-acid.

Dr. Herman Knapp, New York: There is a capital difference between perforations in the upper and those in the lower part of the drum membrane. Those in the lower part may close in a few days, while in the upper part they may continue for months or years. I think this is due to difference in anatomical structure. The lower portion is a specific tissue with little association with periosteum, while the upper part is a duplicature of periosteum and skin. When the latter part is affected the process extends to the periosteum leading to caries and necrosis of the bone.

THREE DEATHS FOLLOWING SUPPURATIVE OTITIS, WITH TWO AUTOPSIES,

by Dr. F. M. Wilson, Bridgeport, Conn.

Cases in which death follows a first attack are so rare that it was thought of value to report these cases. The first patient was forty years old, and for two weeks before coming under observation had had pain in both ears. February 27, 1888, the pain in the left ear became very intense. March 1st, he became partially unconscious, and remained so with occasional convulsive movement until March 6th, when he died. The mastoid was drilled half an inch, but no pus found. No autopsy was made.

The second case, a male aged twenty-three years, was attacked with sub-acute otitis. March 11th, symptoms of meningitis appeared, with high temperature, and he died March 27th. At the autopsy one-third of the base of the cerebrum was involved in the purulent process, which extended up under the frontal convolutions; there was about half an ounce of turbid fluid between the dura mater and inner meninges. There was pus in the labyrinth and in the tympanic cavity.

The third case was that of a boy aged ten years, who was attacked with suppurative otitis, September 5th, and died about ten days later. At the autopsy the meninges were found normal, but an abscess containing two drachms of fluid was found in the cerebellum.

Dr. Wilson also presented a

MASTOID DRILL,

provided with a guard which could be set at any desired point, regulating the distance to which the drill entered. The edges of the drill are sharp, so that the opening can be enlarged horizontally to any desired extent.

DISCUSSION.

Dr. Gorham Bacon, New York: It seems to me that in these cases where we do not find any collection of pus in the mastoid cells, we are justified in investigating the condition of the brain.

Dr. J. O. Tansley, New York: I have had several of these cases, and have without success sought for some means by which we could differentiate between those cases in which there was meningitis and those in which there was abscess. In one case, Dr. Seguin made a diagnosis of abscess, based upon conjugate deviation of the eyes. Subsequent autopsy showed the correctness of this diagnosis. In another case I suspected abscess. Dr. Weir opened the mastoid, but found no pus. He also exposed the cerebrum, and two days later the cerebellum, but found no pus. The patient died of suppurative meningitis.

Dr. S. D. Risley, Philadelphia: It seems to me, that in the differential diagnosis, attention to the temperature in connection with symptoms of pressure, is of great importance. In meningitis the temperature from the outset will be higher than in abscess, and the symptoms of pressure come on later.

Dr. J. A. Andrews, New York: In the past year I have made a number of autopsies in cases of brain abscess. Brain abscess may continue for a considerable time without any very positive symptoms, but where there is meningitis or phlebitis, especially phlebitis, there is usually a sudden rise of temperature with chills.

Dr. Oren D. Pomeroy, New York: In a case of brain abscess secondary to tympanic disease, the only marked symptom was a sudden rise of temperature, sometimes going up in half an hour from normal to 107°. Intelligence was unaffected until the last. The man gradually improved, but died suddenly. The autopsy showed a large abscess of the brain covering the petrous portion of the temporal bone.

Dr. Arthur Mathewson, Brooklyn: It is often difficult to make a diagnosis between abscess and meningitis, and in fact many are mixed cases. In meningitis the pains are more marked than in abscess. In meningitis, there is more likely to be optic neuritis; while in brain abscess, I have noted a peculiar dark appearance about the retinal veins.

Dr. Samuel Theobald, Baltimore: The treatment of the preliminary stage of these cases is important. It seems to me that a great deal might be done to prevent the occurrence of the conditions referred to. I have found benefit from local applications, especially atropia and cocaine and morphia and cocaine. If the

bowels were constipated, I should use a calomel cathartic. If there should be symptoms of cerebral implication, I should administer mercury in some form to secure its constitutional effect.

DR. E. FRIDENBERG, New York: During the past eighteen months, I have made autopsies on two patients dead from cerebral abscess. In one case suppuration had lasted a year, but there had been no symptoms until a week before death, except irritability of temper. There was some odor, but very slight discharge from the ear. A week before death the patient developed pain in the ear, slight tenderness over the mastoid followed by fever and symptoms of brain pressure. A small abscess was found in the tempero-sphenoidal lobe. The roof of the tympanum was carious and the meninges strongly adherent.

In the second case the patient had had suppuration for years. Two months before death headache occurred, which was relieved by treatment. It recurred, with fever. There was some pain on pressure over the mastoid process. The symptoms again disappeared under treatment. Three weeks later he returned with similar symptoms. The next morning vomiting occurred, and that evening he died. An abscess containing two ounces of pus was found in the tempero-sphenoidal lobe.

DR. T. Y. SUTPHEN, Newark: These cases of brain trouble almost invariably follow the arrest of the flow of pus. We should look upon the cases as instances of local trouble, and should treat the middle ear by fomentations, and perhaps by poultices, to bring about free discharge of pus.

DR. R. A. REEVE, Toronto, Can.: In one case of death following acute suppurative otitis, there was the most profuse purulent discharge that I have ever seen, and it continued from beginning to end.

DR. B. ALEXANDER RANDALL, Philadelphia: A case of cerebral abscess occurred in my practice last year, in a boy, the subject of scrofulous disease of the elbow and other joints. I found both ears discharging with caries of the auditory meatus on both sides. On the left, all the mastoid tissues were involved. Under treatment the right side rapidly improved, and on the left side there was also improvement. The case was then transferred to my surgical colleague. Six weeks later the ears were still in good condition, but the patient was gradually failing from the constitutional trouble. An hour before death there was suddenly a discharge of at least two ounces of fetid pus from the ear. There was no meningitis, but a large abscess cavity was found in the spheno-temporal lobe, and one half-inch from the tympanum and connected with it by a sinus.

In cases where it is thought justifiable to perform exploratory trephining of the brain, an admirable and safe point is one and one-fourth inches behind, and an equal distance above, the upper posterior margin of the osseous meatus. This avoids the major blood-vessels, and it would be possible to reach the cerebellum through it.

COMPLETE CLOSURE OF BOTH EXTERNAL AUDITORY CANALS BY BONE, IN A PATIENT HAVING GOOD HEARING POWER, WITH A PREVIOUS HISTORY OF CHRONIC SUPPURATIVE OTITIS MEDIA,

by DR. E. E. HOLT, Portland, Me.

T. M., age eighteen years, was seen in April, 1889, for an affection of the eye. It was incidentally learned that he had had abscesses in both ears when seven years old, and the ears discharged more or less for six years, but stopped entirely five years since. Examination showed the canals of both ears of about half the usual length, and occupied by a continuation of the skin of the meatus, with no appearance of the membrana tympani. There was complete closure of the canal by what appeared to be bone by all the tests employed.

The hearing power for the voice was good. The stop-watch was heard only when close to the ear; the tuning-fork was heard about ninety seconds both by bone and ærial conduction. König's rod of thirty thousand vibrations per second was heard by both ears. He heard less distinctly when both ears were closed by pressure on each tragus. Shutting the mouth and closing the nostrils did not seem to effect the hearing power much if at all. Cases with closure of one meatus with the skin of the canal continuous over the obstruction have been observed, but the hearing power is very defective. Cases in which there is a small opening between the exostosis and the walls of the meatus are not uncommon.

DISCUSSION.

DR. SAMUEL THEOBALD, Baltimore: Four or five years ago I reported a case very similar to the one described. The newly formed membrane was, however, nearer the orifice. The hearing power was good.

DR. B. ALEXANDER RANDALL, Philadelphia: I have had one case in which one ear was obstructed by a bony mass. There was no evidence of exostosis. The hearing was, however, defective.

OTITIS MEDIA CATARRHALIS ACUTA, ACCOMPANIED WITH FACIAL PARALYSIS AND IMPAIRMENT OF ACCOMMODATION OF THE EYE OF THE AFFECTED SIDE,

by DR. E. E. HOLT, Portland, Me.

Judging from statistics, one would be led to believe that paralysis of the facial nerve in connection with acute catarrhal inflammation of the middle ear was not a common complication. In many cases the pain having been slight, and having passed off and the paralysis having come on, the patient's attention is directed to this and he seeks advice for the latter affection, and the cause of the paralysis is recorded, "a cold," or "rheumatic."

F. L., age twenty-four, seen May 19, 1889. Seven days before took cold, and right ear began to pain that night. This pain continued three days, when it subsided; and on the fourth day he was unable to use his lips properly. Examination showed all the characteristics of facial paralysis. Testing the eyes, there was found paralysis of accommodation of the right eye. This the author knew to be a fact, because he had previously had the patient under his care and recorded the test of his eyes, and also by the fact, that, since the improvement of the paralysis of the face, the paralysis of accommodation has disappeared.

THE PHYSIOLOGY OF THE INTRO-TYMPANIC MUSCLES.

by DR. S. O. RICHEY, Washington, D. C.

The paper was the elaboration of a suggestion made by the writer in the discussion of a paper read by him at the Congress of American Physicians and Surgeons, in 1888. If the membrana tympani in pur-

pose protects the aural tissues lying interior to it, these muscles, being appendages to the membrane, are designed to assist the purposes of the membrane, which they do in part, by protecting it from injury by the impact upon it of sound impulses violent enough to rupture an inflexible membrane firmly attached and having such a plane as to expose it to the fullest force of the concussion. The membrana tympani fulfils one of these conditions; it is firmly attached. Toynbee and Henle were quoted as having many years ago expressed a somewhat similar view as to the action of the tympanic muscles, and it was stated that no reference to this subject by later writers was found. The shape and other peculiarities of the auditory meatus; the elasticity and capacity for motion of the drum membrane, and its oblique position with relation to the meatus; the co-ordination between the palatal and the intra-tympanic muscles, converting the tympanic cavity into an air-cushion, all indicate a similar purpose on the part of nature to guard the membrana tympani immediately, and the labyrinth mediately from violence.

EVENING SESSION.

DR. GORHAM BACON, of New York, exhibited photographs of the ear, and read a paper on

CYSTS OF THE AURICLE.

Of late a number of cases of so-called cysts of the auricle have been reported. Not one of them, however, seems to represent a genuine cystic tumor such as is found in other parts of the body. They all were situated on the anterior surface of the pinna, and were of rapid development. They either were the results of traumatism and contained a sanguinolent fluid, or they developed without known cause. Mild inflammatory symptoms were present in all. The development within two or three weeks, in almost all cases, distinguishes them clearly from the slow and absolutely non-inflammatory development of true cystic tumors. All got well either by spontaneous absorption or by incision. The speaker had seen at least half a dozen of these cyst-like sub-perichondrial swellings of the auricle. He considered them to be mild cases of perichondritis, for those mild cases of circumscribed perichondritis may, instead of getting well, remain in this condition for a time, and then develop into the full picture of a diffuse perichondritis. He reported such a case.

DR. KNAPP also described a case of genuine cyst of the auricle, occurring in a girl nineteen years of age. The growth was double the size of a large filbert, distinctly cystic, and had developed without known cause and without any inflammatory symptoms. The cyst was removed by operation, without rupture, and was exhibited. These tumors are not frequent in the auricle, but they cannot be so rare as we might infer from otological literature.

EPITHELIOMA OF THE MIDDLE EAR.

by DR. W. H. CARMALT, New Haven.

The patient, a robust man aged forty-seven years, was first seen in June, 1888, on account of suppurating ear (left), which had existed forty-two years, and had followed measles. The ear had given him no inconvenience, with the exception of the discharge, until a few weeks before he came under observation. He then began to have pain in and around the ear and the discharge was exceedingly offensive. The canal was blocked by a ragged but firm excrescence, very sensitive to touch. There was slight tenderness but no swelling or pitting over the mastoid. The pain radiated through the side of the head and interfered with sleeping. At the second visit, the left side of the face was completely paralyzed. The case was regarded as one of epithelioma of the skin of the canal. The patient was seen by another gentleman who thought the trouble might be a carious antrum. An attempt was therefore made to open the antrum, but the bone around it was so sclerosed that the cavity was practically obliterated. There was nothing of the nature of an abscess in the mastoid. The incision was then prolonged through the soft parts and into the external auditory canal. What polypoids could be reached were removed, and a drainage tube inserted. The mass removed proved to be carcinomatous. In the course of a few weeks the ear again became blocked up, and the skin became involved. With the object of alleviating some of the distressing accompaniments of the condition, another attempt was made to clear it out. By chiselling away the bone posteriorly, free access to the ear cavity was obtained, and the bone scraped apparently clean. No auditory apparatus was seen, simply a mass of carcinomatous tissue. The cavity was washed with a solution of resorcin, and for a time the wound did well, but subsequently the disease reappeared. The discharges became again offensive and the patient exhausted, and he finally bled to death without the condition being detected, probably from erosion of the lateral sinus. No autopsy was permitted.

DR. B. ALEX. RANDALL exhibited a series of

PHOTOGRAPHS,

and made some remarks on the use of photographs and of the lantern in treating otology.

Dr. Randall also reported five cases of

SUPERNUMERARY AURICLE,

four of the right ear, one of the left ear.

Dr. T. Y. SUTPHEN, of Newark, exhibited a mumified pea, which he had removed from the auditory canal, where it had lain for nineteen years. The patient had been deaf in that ear since childhood. He heard the watch at one inch; after removal of the foreign body, the hearing was almost normal.

DR. B. ALEXANDER RANDALL made some remarks upon the

ANATOMY OF THE DRUM MEMBRANE.

A paper entitled

TWO NOTEWORTHY CASES OF TRAUMATIC RUPTURE OF THE MEMBRANA TYMPANI

was presented by DR. HUNTINGTON RICHARDS, New York.

CASE I, seen May 7th, a woman aged thirty, two days before had received a box on the left ear. The symptoms were vertigo, tinnitus and marked deafness. There had been no bleeding or other discharge. There were some evidence of pre-existing tympanic catarrh in that it was somewhat depressed and moderately atrophic; save for pronounced congestion of the manubrial vessels, and a narrow red line along the border of the opening, it was not congested. The exposed inner wall of the tympanum was likewise pallid, secreting only sufficient mucus to give its surface a glistening appearance. The patient was directed to let

the ear alone, and a small loose cotton obturator was placed in the auditory meatus.

CASE II, a woman aged twenty-three, came under observation, May 22d. There was no discharge or bleeding. There was no congestion of the membrane or of the tympanic wall. The patient had complained of aural symptoms for several weeks. On May 21st, she consulted a physician, who introduced a cotton-covered probe. This made her so dizzy that she had to lie down immediately, and within two hours she discovered that she was very deaf. The treatment was negative, and up to May 31st, no change had occurred. The edges of the opening were then stimulated with nitrate of silver solution and a small quantity of boric acid was insufflated. Examination made a few days later showed that the opening had healed, with the exception of a small part. The patient then passed from observation.

EXECUTIVE SESSION.

Officers for ensuing year: *President*, Dr. Oren D. Pomeroy, New York; *Vice-President*, Dr. Gorham Bacon, New York; *Secretary and Treasurer*, Dr. J. J. B. Vermyne, New Bedford, Mass.; *Member of Executive Committee of Congress of American Physicians and Surgeons*, Dr. W. H. Carmalt, New Haven; *Alternate*, Dr. F. B. Loring, Washington, D. C.; *Committee on Membership*, Drs. Arthur Mathewson, Samuel Theobald, and S. D. Risley; *Committee on Publication*, Drs. J. J. B. Vermyne, C. J. Blake and J. Orne Green.

A committee consisting of Drs. S. C. Ayres and Wm. W. Seely, was appointed to prepare a minute on the death of Honorary Member, Dr. E. Williams, of Cincinnati.

The following were elected to membership: Dr. Harlan P. Allen, Columbus, Ohio; Dr. Ralph M. Seiss, Philadelphia, Pa.; Dr. David Harrower, Jr., Worcester, Mass.; Dr. Robert Barclay, St. Louis, Mo.; Dr. Neil P. Hepburn, New York, N. Y.

Recent Literature.

Synopsis of Human Anatomy, being a Complete Compend of Anatomy, including the Anatomy of the Viscera, and Numerous Tables. By JAMES K. YOUNG, M.D., Instructor in Orthopædic Surgery and Assistant Demonstrator of Surgery in the University of Pennsylvania. Philadelphia and London: F. A. Davis, Publisher, 1889. Physicians' and Surgeons' Ready Reference Series.

In saying that this book is good of its kind, we mean to pay it a very relative and modified compliment; for the kind is detestable, and this has merely the merit of being better than most of its class. Intrinsically considered it is very poor. Judging from the preface, the author apparently thinks it a sufficient text-book. We cannot congratulate him on his "well-selected wood-cuts," nor agree with him that "sufficient descriptive matter has been added to render it valuable to the busy practitioner." Some of the tables and diagrams are useful, but neither the text nor the illustrations are satisfactory. We see no reason to suppose that this will take the place of any good work on anatomy. A man who cannot afford to buy one of the standard text-books had better not study medicine.

T. D.

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THE ALLEGED SPONTANEOUS COMBUSTION OF THE HUMAN BODY.

WHEN "Bleak House" appeared, in 1853, novel-readers were treated to a new sensation in the way of a death-scene, when Krook was taken off the stage by spontaneous combustion, "of all the deaths that can be died." The public shuddered and medical readers smiled. The subject was then to most physicians, as it is now, well inside the border of medical mythology. Medico-legal authorities naturally reacted from the often manifestly unreliable cases which were at first reported, and with some leading medical journals, discredited the whole thing. The *Lancet*, in 1875, spoke of "the few apocryphal cases of it," and the *Medical Times and Gazette*, in 1863, editorially classed all the reported cases somewhat contemptuously under "popular medical errors." The writer put into the same category of humbugs with it such subjects as prenatal maternal impressions on the fœtus, "vegetarianism and teetotalism."

Within the past year or two several cases have been put on record, which, with the list previously accumulated, serve to establish pretty clearly the fact of an occasional abnormally increased combustibility of the human body, which, it should be observed, does not necessarily imply ignitability, or true spontaneous combustion.

For instance, Dr. Booth's case, which is reported with a photograph of the nearly consumed remains,[1] is of a pensioner, aged sixty-five, of very intemperate habits, who climbed into a hay-loft while drunk, at nine P.M. Neighbors saw by a skylight, a light struck, which after a while was put out. At eight the next morning, the body, with all its soft parts consumed, was seen lying over a hole in the floor which had nearly burned through, but had one or two joists that kept the body from falling through. The chance of the application of fire to the man's clothes is here distinctly stated; and the combustion, remarkable as it was, is not shown to have been spontaneous.

[1] British Medical Journal, vol. i, 1888, p. 841.

Again, Middlekamp[2] reported a similar case of nearly complete combustion, where the victim, a man of sixty-six and a drunkard of twenty years' standing, fired a gun at his own breast, with a ramrod. Here the heat was so intense as to melt the ramrod and a metal buckle. The body was consumed entirely, except the lower part of the legs, the head and the arms.

In the *Therapeutic Gazette* of the current year, two more such instances are reported. Of these, Dr. Clendenin's[3] was an old Irish woman, addicted to the excessive use of whiskey of which she had drunk a quart the day she died. She had always been the last of of the household to go to bed, and so always extinguished the tallow candle (their sole means of illumination). There was also a fire in the kitchen stove. The inner walls of the house were covered with greasy soot, and the two old men who were the only other occupants were both asphyxiated. A hole was found burned through the kitchen floor, about two and one-half by three feet square. Upon examining the opening in the floor, a mass of cinders was discovered on the ground beneath. Upon removing them the skull, the cervical, and half the dorsal vertebræ were found reduced very nearly to a cinder, also about six inches of the right femur, together with part of the ilium in about the same state as the vertebræ. The feet were found in the shoes; the left foot was reduced to a cinder, the shoe being partially calcined; the other foot and shoe were reduced to a complete cinder. On removing, the entire remains of a woman, who a few hours previous had weighed one hundred and sixty pounds, were placed in a box that would hold less than one bushel. The entire remains weighed twelve pounds. The pine joint against which the remaining cinders lay were slightly charred, but not burning when found.

To burn the human body, under ordinary circumstances, is not an easy thing. The great heat secured in crematories, and the length of time even then requisite to incinerate the body, illustrate this fact. It has been shown that the body is three-quarters water, and a great deal of combustible material is a necessary adjunct to the successful reduction of so non-inflammable a substance. What, then, is it that occasionally imparts to it so abnormal a susceptibility to flame? Here theories are at fault. We may safely say that it is *not*, as has been claimed by some, alcohol deposited in the tissues. For Liebig found that flesh saturated in that liquid would burn only until the alcohol was consumed. The hydrogen theory is also fanciful; and the best explanation, namely, an abundant deposit of fat in the cells of the body in such cases, fails to account for the fact that not all fat people are subject to this fate, but that it is only the fat, elderly *alcoholic* subjects that have been shown to manifest abnormal combustibility. Possibly the alcohol in such cases has the double effect of laying up fat and stupefying the subject so that he is unable to save himself when he does take fire.

[2] St. Louis Medical and Surgical Journal, October, 1885.
[3] Therapeutic Gazette, June 15, 1889.

One of the best recent monographs on this subject is that of Dr. F. Ogsten,[4] which details a case of his own — again, be it observed, one where the spontaneous element was wanting, or was not proved. A woman, fat, intemperate, was in front of smouldering ashes in a grate, and was almost wholly consumed, with little burning of the surrounding objects, and with nothing specially inflammable about her. Ogsten seems to have had some doubt on this subject, seven years later, in referring to the same case,[5] when he says the question is still *sub judice*; but he admits that one cannot explain the facts in this case without assuming that the body was in a condition unusually favorable for and predisposed to the feeding at its own fire.

In the monograph referred to, Ogsten collected the opinions of thirty-five authors who treated of this subject, and he thus classified them: Five were quite sceptical on the whole subject; three believed in increased combustibility only, and twenty-seven believed in spontaneous ignitability as well.

The necessarily isolated condition of all persons who perish in this way, and the commonness of fires and lights or of the means of producing them in all places, would make it extremely difficult to establish the fact of spontaneous ignitability, even did it exist. Certainly such proof has not yet been given us. The other point, that of increased combustibility, seems to have received considerable confirmation.

STENOGRAPHY AS AN ADJUNCT TO A MEDICAL EDUCATION.

SOME months ago, we directed attention editorially to the desirability of stenography as an adjunct to the study of medicine, and some of its advantages to the student and the practitioner were then mentioned. The fact was pointed out that the system of teaching in all the more advanced medical schools is now so changed that the "lectures," formerly almost the only medium of instruction, are to a great extent superseded by other and more valuable methods, in the way of accurate and visible charts, of systems of clinical and pathological investigation, in which diagrammatic and concise schematic representations of the course and direction of the disease processes replace the less satisfactory teachings of earlier days. This change in method allows the possibility of a clear and defined history on the course and tendency of the disease process, and of forming a clinical picture which shall afford to the eye a distinct representation of the case in its entirety. A clinical examination is now often augmented by means of photography. What photography is to the ordinary drawings of former days, to a considerable degree shorthand is to the ordinary means of taking notes either in the class or at the bedside.

The use of some means of correctly and quickly taking notes of cases, or other interesting records in

[4] British Foreign Medico-Chirurgical Review, vol. xlv. p. 179.
[5] Medical Times and Gazette, vol. i, 1877, p. 27.

relation to medical subjects is each year more and more urgent, and is making itself felt in every great institution of medical teaching. It is with especial pleasure that we find that some of our English brethren are of the same opinion as ourselves in this respect.

In the *British Medical Journal*, June 15, 1889, page 1372, we find some remarks based upon the report of a committee appointed to investigate and encourage the use of shorthand in relation to the study of medicine. This committee was composed of Sir Dyce Duckworth, Mr. Howard Marsh, Dr. Gowers and Dr. Coupland, men of the first eminence in the profession in England; and their report is made the object of recommendation in the remarks above alluded to. This committee propose to offer prizes to students in medicine who shall exhibit the greatest proficiency in stenographic reports of medical subjects. Such a recommendation coming from so competent a committee should at once attract renewed attention to this topic, and lead students of medicine, or those intending to become such, to seriously entertain the question of acquiring the art of rapid and correct transcription of ideas in permanent form for future reference. The ordinary notes of lectures or clinics are but the most crude and naked outline of the subjects treated, all detail and much of importance in the chief features of the case being of necessity lost from sheer inability to take down more. With a moderate amount of study and a limited expense of time, the student might be enabled to make ready and complete descriptions of all interesting subjects.

The use of stenography is by no means confined to one profession or calling, but like photography, is applicable to all the objects of observation or study coming under the notice of the student. It is especially desirable in the notes of cases in daily medical practice, by which the hard-working physician is able to readily and easily make a complete record of symptoms and signs not otherwise often recorded, an item not to be lightly estimated. In the Massachusetts Medical Society for instance, there are, we believe, but few men who are able to make accurate records of discussions or proceedings, in verbatim form. Medical stenography is unlike any other branch of this art, inasmuch as many of the terms employed are of technical character and are not comprised in any vocabulary or system of common shorthand. So that a report of a meeting or discussion made by an ordinary stenographer is apt to be very unsatisfactory. There is no difficulty other than a merely idiomatic one in the use of stenography in any special direction, and medical shorthand is fully legible and easily written by a medical man.

It is to be hoped that more attention may be directed by the younger members of the profession and by medical students to this neglected art. It is true that a motion made to the General Medical Council by Sir Dyce Duckworth, in favor of encouraging shorthand was rejected, and if the use of shorthand were necessarily to take the place of the use of brains, the objections urged by its opponents would be of much weight.

THE HEREDITY OF TUBERCULOSIS.

HUTINEL, of the *Hôpital des Enfants Malades*, has published a communication on the "Heredity of Tuberculosis," [1] of which the conclusions are as follows:

As for the direct transmission of the germ from the parents, we are warranted in affirming that communication by the father is not proved, and is very problematical; transmission by the mother may take place, but it is extremely rare.

Heredity, nevertheless, exists; for if the offspring of phthisical parents are not born tuberculous, they are *tuberculizable*; they may not, it is true, have brought with them the germ from their birth, but they have inherited a culture soil (*terrain*) favorable to its development.

In accordance with these conclusions, which are in harmony with a multitude of clinical observations, Langerhaus, who has long practiced in Madeira, has noted that among the individuals not phthisical that have come to that island for a certain number of years, only those born of tuberculous parents become infected by the numerous phthisical patients resorting to that island every year. Of every ten individuals with phthisical parentage, one died of tuberculosis, while the proportion of those becoming consumptive with no hereditary predisposition has been as one to sixty-eight.

MEDICAL NOTES.

— Apache county, Arizona, is said to be without a practising physician, though possessing a population of several thousands.

— Dr. Zweifle, of Leipzig, has recently successfully removed a cancerous uterus in the sixth month of pregnancy.

— The library of the late Dr. Jewell, of Chicago, numbering about 3,000 volumes, has been secured as the nucleus of a medical library for general use.

— The Director of the Assistance Publique has distributed among the *infirmiers* and *infirmières* of the Paris hospitals 2,000 tickets for the Paris Exhibition.

— A new hospital for women in West Philadelphia, under the care of women physicians, the second of its kind in the city, is to be opened at the northeast corner of Forty-first and Ogden Streets.

— Deutsch reports a case in which rupture of the uterus was successfully treated by laparotomy. Four years after, the patient was again pregnant, and a living child was delivered by podalic version. The placenta was adherent to the scar resulting from the previous rupture.

[1] Semaine Médicale, 1889, p. 229.

— Dr. Howard H. Kelly, of Philadelphia, associate professor of obstetrics in the University of Pennsylvania, has been appointed gynecologist to the Johns Hopkins Hospital.

— A case is given by the *Medical Press* of a man whose history is remarkable for the number of times he has obtained admission to lunatic hospitals by feigning lunacy. In the course of seven years he obtained admission to no less than twelve asylums.

— An organization has been recently established to be known as the "Military Order of Surgeons of New Jersey," the objects of which briefly stated are to promote an interest in the National Guard and to cultivate and foster the art of military surgery and sanitation.

— At the annual meeting of the directors of the St. Albans (Vt.) Hospital, held on Tuesday, July 23d, these officers were elected for the ensuing year: *President*, Hon. J. Gregory Smith; *Vice-president*, James M. Foss; *Secretary*, Charles D. Watson; *Superintendent and Treasurer*, Dr. T. R. Waugh.

— The Government of Chili has created a "Superior Council of Public Hygiene," consisting of seven members, whose duty it shall be to advise the Government in everything that relates to the public health throughout the Republic. The Council has a laboratory for chemical analysis under its control.

— The late Dr. Thayer was one of the best physicians in the country, but his skill was of no avail in the case of his wife, who kept her bed for more than two years. One day when she was the only grown person about the house, and her little boy came running in with a bad cut on his finger, bleeding profusely, with true motherly forgetfulness of self she sprang up, found bandages and dressed the wound; then sitting down to rest, she looked around. Everything seemed so pleasant, and she felt so comfortable, that she decided not to take her bed again, and she did not. She lived several years in the enjoyment of comfortable health. — *Fairfield, Me., Journal.*

— Through the efforts of Dr. Filip Trybom, the Swedish Oyster Culture Society is attempting to acclimatize the American oyster, imported from Connecticut, in several places along the coast of the province of Bohus. The young oysters seem to thrive well.

— The *Pittsburgh Medical Review* gives the following list of casualities on July 4th, in Pittsburgh: five persons drowned by the overturning of a boat; two cases of fractured skull, probably fatal; two serious gun-shot wounds; three broken legs; nine individuals severely burned by powder explosions, of whom three will lose their sight; and ten accidental fires.

— M. Brown-Séquard announces that the injection of ovarian tissue-juice into debilitated women has been tried and without bad effects. He also says that the stimulating effect of the hypodermic injections made upon himself lasted about four weeks, since which time he has returned to the previous state of weakness.

— In the cases of the State of New Hampshire *vs.* Drs. C. D. Hinman and D. D. Pennoyer of Portsmouth, the former indicted for practising dentistry and the latter medicine, without a license, the full bench of the Supreme Court has just rendered a decision quashing the indictments and declaring that the law requiring a license for the practice of medicine, surgery and dentistry is unconstitutional.

Miscellany.

MUNICH A HEALTHY CITY.

DRS. VON PETTENKOFER and von Ziemssen maintain, in a recent communication to the *Münchner Neueste Nachrichten*, that, owing to the purification of the soil by sewerage and other sanitary improvements, not only has typhoid fever lost its vitality in Munich, but certainly the conditions of the epidemical development of other diseases, as cholera, are also destroyed. Still one is not able yet to appreciate to their full extent the effects of the sanitation of the soil upon all causes of disease outside the human body. After some more decennaries shall have elapsed, we shall perhaps be able to estimate the entire gain to the general health. But even now, the reputation of the town is the best, and, in consequence of it, the influx of students, of strangers and foreigners settling there, the frequency of exhibitions, etc., is steadily increasing. It may be said, without exaggeration, that *Munich can confidently be called one of the healthiest cities in Germany.*

A REMARKABLE EPIDEMIC OF PNEUMONIA.

IN the *Maritime Medical News* for May, quoted by the *Medical Record*, there is an account of an epidemic of pneumonia in Prince Edward Island. During the months of February and March no less than five hundred and forty-six cases occurred in the practice of twenty-six practitioners, and at the date of the report the disease was still very prevalent. As there are over fifty practitioners in the island, it is computed that the total number of cases is fully upward of one thousand. As the population of the island does not exceed one hundred and fifty thousand, the number attacked is relatively very great. It appears that in the majority of cases the pneumonia was attended by acute bronchial catarrh. The catarrhal complications, which in some cases also involved the larynx and middle ear, were more frequent in children and the aged. In the five hundred and forty-six cases reported there were only forty deaths, a decidedly low mortality.

Correspondence.

THE USE OF HOT AIR IN PHTHISIS.

BOSTON, 91 Newbury St., July 24, 1889.

MR. EDITOR, — In the *Boston Medical and Surgical Journal* for July 11th, Dr. Sears, in writing on the use of hot air in phthisis, states that owing to the high temperature and consequent rarefaction of the inspired air, while the outside atmospheric pressure remains the same,

the danger of hæmorrhage is increased. This implies that the pressure in the lungs is diminished. How is this brought about? To my mind not at all. The inspired air is rarefied, but, since it is in direct connection with the atmosphere, must remain at the normal pressure. Were the air penned up, the pressure would be increased. The only way a diminution in pressure in the lungs can result, is from the friction in drawing the air through the heater, which in turn is counteracted by the tendency of the hot air to rise, as in a chimney.

The inspiration of hot air, however, does have a mechanical effect, since the air cools off in a body and becomes denser, a greater volume of air must be inspired than expired. Therefore, the normal respiration must be altered in such a way as to increase either the vigor or duration of inspiration as compared to expiration. This is quite a factor, the coefficient of expansion of air being given at .003670, the inspired air at 200° C., and the expired at 45° C., the ratio of inspired to expired volume of air would be 1.56885 to 1. The cooling, of course, produces no effect upon the weight. Of course the changes in the gases due to respiration will alter these figures, but this appears to be about the same as in ordinary respiration.

Yours very truly,

JOHN A. JEFFRIES, M.D.

[From our Special Correspondent.]

PARIS LETTER.

BIOGRAPHICAL SKETCHES OF EMINENT FRENCH CLINICIANS. PROFESSOR GERMAIN SEE.

PARIS, July 19, 1889.

MR. EDITOR,— I propose in this and subsequent letters to give a brief sketch of some of the most marked men of the profession in Paris.

Professor Germain Sée is one of the most renowned in French science. He is one of the leading therapeutists in this country; physician to the Hôtel Dieu and member of the Academy of Medicine. His clinical lectures, which are most remarkable for their lucidity, are always well attended, not only by the students of the faculty, but by foreign medical men from all parts of the world. Although a septuagenarian, he keeps himself abreast of all the modern inventions and discoveries of the day. His clinical teaching is based principally on chemical therapeutics and microbiology, without, however, neglecting the collateral sciences, such as physiology and morbid anatomy and histology. He is not very popular among his colleagues, and the elder ones have always borne him some animosity, as he attained a professorship without having passed through the grade of *agrégé*, which is obtained only by public competition. This was effected through the direct intervention of Napoleon III, and although M. Sée was not an avowed Imperialist, yet the emperor, who was rather shrewd in finding out the best men, had him attached to his person as consulting physician. It was to reward him for his services that the emperor created M. Sée, Professor of the Faculty of Medicine of Paris. This act, being contrary to the universitarian customs of the country, was the cause of his having more than one enemy in the faculty. He has since, however, proved himself qualified in every way and worthy of his position. It may be remembered that, several years before his nomination M. Germain Sée had organized, at the Hôpital Beaujon, a free course of lectures, treating of subjects little familiar to the students and practitioners who followed him in his wards. The young professor, already distinguished for his erudition, possessing a profound knowledge of several foreign languages, an expert in the technic of microscopy (a rather rare acquirement at that period), delivered lectures which were always well attended and revealed in him the highest qualities, which eventually justified the choice made by the emperor. Moreover, since he has occupied a magistral chair at the faculty, he has succeeded in conquering the sympathies of most, if not all, his colleagues. He is eloquent, which has excited the enthusiasm of the students, beside which, his teaching is original, taking in physiology to the aid of his clinical and therapeutic lectures. In a word installing science where empiricism alone reigned.

It is more especially in the art of cure that he effected great progress. As soon as a new medicament is utilized in foreign parts, particularly in Germany, M. Germain Sée who is well versed in German, seizes the discovery, makes experiments in his laboratories, attempts practical applications, and then makes known the result of his researches. The greater part of the medicaments which are now in daily use, have been vulgarized by him in France, and all that he has recommended have been accepted by the profession. His works on digitalis, the salicylate of soda, and on antipyrine, will long be consulted. More recently the learned professor published, consecutively to the discoveries of Professor Koch on tuberculosis, very interesting lectures, in which the questions of contagion, bacillosis and of treatment are elucidated with great talent. Notwithstanding his advanced age, he devotes the time allowed him after his numerous consultations, to scientific work. It is to be hoped that he will for some time be able to continue his interesting lectures at the Hôtel Dieu, and when the time comes for him to retire, the regrets, even of those who were so much opposed to him, will follow him.

Whilst writing about Professor Germain Sée, I may here refer to his most recent work on the diseases of the heart, etiologically and clinically considered, which forms part of a work written by him in conjunction with Dr. Labadie-Lagrave, under the general title of "Clinical Medicine." It comprises only the clinical study of the diseases of the heart, the second volume will take up the treatment. Like all the other grand divisions of pathology, clinical exploration and therapeutics are enriched by a certain number of important acquisitions. His tendency to microbiology is manifest in this as in all his most recent works. For instance, after having insisted on the fact that the origin of the diseases of the heart has one source, that is to say, that it proceeds from endocarditis, M. Sée has endeavored to demonstrate that endocarditis, whatever be its form, is of parasitic origin. The notion of inflammatory endocarditis becomes more and more uncertain in the face of that of the bacteric form, the demonstration of which has already been made. In a clinical point of view, the author adds, there is only one species of endocarditis which is due to the swarming of micrococci. The valvular lesions are the consequence of the morbid work effected in the tissues by the parasites, but there is not any inflammation in the proper sense of the word, as the inflammatory process is wanting. It is in reality a degenerative process. Hence M. Sée proposes to designate the microbic maladies of the endocardium under the name of "endocardies." It is clear that this affection has not for cause only one single microbe, but that every infectious malady may by its interior parasitic products become endocardiac. There is no exception to the rule that endocarditis in the neighborhood of the aortic valves depends on the propagation of the divers degenerations of the arterial system. Limited space will not allow me to enter more fully into the various types of the diseases of the heart as described by the author, but I must refer your readers to the work itself, which will amply repay perusal. I may, however, remark that one may observe that, throughout the work under notice, physiology contributes a good deal to the interpretation of the morbid phenomena and their connection one with another. There is no group of maladies where the advantages of this method are more evident than in the diseases of the heart. Moreover, a large part of the work is devoted to the etiology and to the pathogeny of the lesions of this organ.

To give your readers an idea of the eclectic spirit of Professor Sée, I shall lay before them the summary of a series of lectures which he delivered a short time ago at the Hôtel Dieu, on which occasion he treated of iron and the various forms of anæmia. He pointed out how the ques-

tion of the action of iron in the organism is still under controversy and this is why no pharmaceutical rule for the divers sorts of medical preparations can be scientifically formulated. There is no absolute rule except for the therapeutic indications, which formally exclude from ferruginous medication all the forms of pseudo-anæmia; namely, (1) alimentary and atmospheric inanitions; (2) all kinds of exhaustion (muscular, nervous, secretory); (3) all intoxications, and all virulent or specific anæmias, such as syphilitic, tuberculous, paludal, and rheumatic pseudo-anæmia. It is only in true anæmia that iron is justifiable. There are three types, he said, of true anæmia; namely, anæmia of the hæmorrhagic origin, chlorosis, and anæmia termed spontaneous. He then referred to the physiology of iron in the organism, and to the formation of hæmoglobin, the mysteries of which are still enshrouded in obscurity. He does not approve of injections of iron, or of those of manganese, as they are eminently toxic, and produce a diminution of the sanguineous pressure, intestinal troubles, paralytic disorders of the central nervous system, and alteration of the kidneys. Nothing of the kind occurs by the ingestion of iron in the stomach, which absorbs nothing directly. The gastric juice transforms the iron into the chlorides, which, on their arrival in the intestine (which is alkaline), become soluble oxide in the presence of organic substances, then soluble carbonates of iron in carbonic acid and in organic matters. Finally, the compounds of iron, submitted to the action of sulphurets and other reducing agents, form sulphurets of iron which are eliminated by the fecal matters. The combinations of the oxide of iron with the organic acids or with the albuminates behave in the same way. The albuminates of iron in the presence of the hydrochloric acid of the stomach, are immediately decomposed in forming the chlorides of iron. It may, therefore, be concluded that the salts of mineral iron, instead of being directly annexed to the organism, are intended to protect in the intestine the combinations of organic iron, of meat for instance, against all decomposition. That which is certain, is, that iron does not appear in the urine under the form of an organic salt, but as an organic compound, and particularly as coloring matter, as shown by Harley of London.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 20, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	964	549	37.28	9.78	30.59	.51	2.47
Philadelphia	1,040,245	536	291	36.34	8.74	27.83	3.91	.92
Chicago	830,000	—	—	—	—	—	—	—
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	240	147	35.70	7.56	33.18	.84	—
St. Louis	450,000	—	—	—	—	—	—	—
Boston	413,567	251	133	31.59	9.75	24.57	5.67	3.51
New Orleans	250,000	121	45	16.60	12.45	10.79	—	.83
Cincinnati	225,000	138	—	18.98	10.95	8.03	.73	3.65
Washington	225,000	133	61	37.00	12.58	24.82	5.92	2.96
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	—	—	—	—	—	—	—
Charleston	60,145	47	23	21.25	6.39	10.65	2.13	—
Portland	40,000	19	7	31.56	10.52	31.56	—	—
Worcester	78,292	46	23	41.23	4.34	30.38	—	6.51
Lowell	71,518	49	30	38.76	10.20	36.72	2.04	—
Cambridge	65,552	28	13	42.84	11.71	17.85	3.57	10.71
Fall River	62,647	44	34	54.48	2.27	54.48	—	—
Lynn	53,334	13	—	7.69	23.07	7.69	—	—
Springfield	40,731	25	14	60.00	28.00	60.00	—	—
Lawrence	40,619	18	11	61.11	—	44.44	—	16.66
New Bedford	37,253	22	12	54.60	9.10	54.60	—	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	16	4	18.75	6.25	6.25	6.25	6.25
Brockton	28,813	6	5	50.00	—	50.00	—	—
Chelsea	28,167	14	11	42.84	—	42.84	—	—
Haverhill	26,058	10	4	30.00	—	30.00	—	—
Taunton	25,170	14	6	35.70	7.14	21.42	7.14	—
Gloucester	24,263	6	2	50.00	16.66	33.33	—	—
Newton	21,553	7	4	57.12	14.28	28.56	14.28	14.28
Malden	19,774	9	6	66.66	11.11	66.66	—	—
Fitchburg	17,534	7	2	—	14.28	—	—	—
Waltham	17,332	3	0	33.33	—	33.33	—	—
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	9	4	22.22	11.11	22.22	—	—
Quincy	13,728	9	6	55.55	11.11	33.33	—	11.11

Deaths reported 2,804; under five years of age 1447: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas, and fevers) 952, consumption 259, acute lung diseases 115, diarrhœal diseases 758, diphtheria and croup 59, typhoid fever 42, whooping-cough 36, measles 17, cerebro-spinal meningitis 14, scarlet fever 13, malarial fever 12, erysipelas 1. From whooping-cough: New York 15, Boston 6, Philadelphia 5, Washington, 3, Baltimore, Worcester and Cambridge 2 each, Cincinnati 1. From measles: Cincinnati 7, Philadelphia 5, New York 4, Baltimore 2. From cerebro-spinal meningitis: New York, Cincinnati, Washington, Charleston, Taunton, Gloucester and Quincy 1 each. From scarlet fever: New York 7, Philadelphia 4, Baltimore 2. From malarial fever: New Orleans 6, Charleston 3, Philadelphia 2.

In the 28 greater towns of England and Wales with an estimated population of 9,555,406, for the week ending July 13th, the death-rate was 21.5. Deaths reported 3,937: infants under one year 1477, diarrhœa 640, measles 104, whooping-cough 80, scarlet fever 43, fever 39, diphtheria 38.

The death-rates ranged from 12.9 in Huddersfield to 31.8 in Newcastle-on-Tyne; Birkenhead 22.4; Birmingham 22.6; Bradford 22.9; Bristol 16.4; Hull 22.3; Leeds 25.8; Leicester 28.1; Liverpool 24.6; London 19.3; Manchester 26.7; Nottingham 20.4; Sheffield 23.3; Sunderland 30.3.

In Edinburgh 16.6; Glasgow 22.4; Dublin 16.3.

The meteorological record for the week ending July 20, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending Saturday, July 20, 1889.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.		8.00 P. M.	Daily Mean.	8.00 A. M.		8.00 P. M.	8.00 A. M.		8.00 P. M.	8.00 A. M.		8.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday,...14	29.76	75.0	84.0	71.0	83		71	77.0	N W.		N.	11		6	O.		O.	.0	
Monday,...15	29.80	59.0	64.0	57.0	94		91	92.0	N.E.		N.	12		6	R.		F.	17.50	.89
Tuesday,...16	29.88	67.0	79.0	55.0	65		60	62.0	N.W.		S.W.	11		10	C.		C.		.0
Wednes...17	29.87	69.0	80.0	62.0	72		81	76.0	W.		S.E.	10		3	F.		C.	1.25	.15
Thursday,.18	29.94	64.0	74.0	60.0	76		74	75.0	N.E.		S.	4		12	C.		C.		.0
Friday,....19	29.90	71.0	82.0	60.0	74		82	78.0	S.W.		S.	6		13	C.		O.		.0
Saturday,.20	29.70	72.0	80.0	68.0	95		80	88.0	S.		N.	24		5	O.		C.	13.40	.68
Mean for Week.			77.0	62.0				78.0										32.55	1.72

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 20, 1889, TO JULY 26, 1889.

GARDNER, WILLIAM H., major and surgeon. By direction of the Secretary of War, detailed to attend the encampment of the National Guard of the District of Columbia, at Fort Washington, Md., from July 22d to 29th, 1889, for the purpose of giving instructions to the medical officers and hospital corps in their respective duties. Par. 1, S. O. 164, A. G. O., July 18, 1889.

STEINMETZ, WM. R., captain and assistant surgeon, now at Baltimore, Md., on leave of absence on account of disability, by direction of the secretary of war, will report in person to the commanding officer of the Watertown Arsenal, Mass., for duty at that station, relieving Lieutenant Colonel James C. McKee, surgeon. Par. 3, S. O. 166, A. G. O., July 20, 1889.

MCKEE, lieutenant colonel. On being relieved at the Watertown Arsenal, will repair to Philadelphia, Penn., and assume the duties of attending surgeon and examiner of recruits in that city. Par. 3, S. O. 166, A. G. O., July 20, 1889.

ROBINSON, SAMUEL Q., captain and assistant surgeon, U. S. A., Fort Hamilton, New York Harbor, Leave of absence for two weeks is hereby granted. Par. 11, S. O. 165, Headquarters Division of the Atlantic, July 22, 1889.

BALL, R. R., lieutenant and assistant surgeon, U. S. A. Leave of absence granted in S. O., Headquarters Department of the Missouri, July 9, is extended five days. Par. 1, S. O. 167, A. G. O., July 22, 1889.

PROMOTION.

EWING, CHARLES B., assistant surgeon. To be assistant surgeon with the rank of captain, after five years service, in accordance with the act of June 23, 1874. July 5, 1889.

By directions of the President, the State of Arkansas, embracing Little Rock Barracks, is transferred to the Department of the Missouri. General Orders No. 66, Headquarters of the Army, A. G. O., July 19th, 1889.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE.

OMITTED FROM LAST ANNOUNCEMENT.

VANSANT, JOHN, surgeon. When relieved, to proceed to Mobile, Ala. July 11, 1889.

MEAD, F. W., passed assistant surgeon. Relieved from duty as acting chief clerk and attending surgeon; ordered to St. Louis, Mo. July 11, 1889.

WILLIAMS, L. L., passed assistant surgeon. Relieved from duty at Cape Charles Quarantine Station; ordered to Baltimore, Md. July 10, 1889.

WEEK ENDING JULY 20, 1889.

KALLACH, P. C., passed assistant surgeon. Granted leave of absence for thirty days. July 15, 1889.

PETTUS, W. J., assistant surgeon. When relieved, to proceed to Marine-Hospital, Boston, Mass., for duty. July 18, 1889.

WOODWARD, P. M., assistant surgeon. Granted leave of absence for thirty days, July 15, 1889.

VAUGHN, G. T., assistant surgeon. Relieved from duty at Boston, Mass.; ordered to Norfolk, Va. July 18, 1889.

STONER, J. B., assistant surgeon. Granted leave of absence for twenty-five days. July 15, 1889.

GEDDINGS, H. D., assistant surgeon. Relieved from duty at Baltimore, Md.; ordered to Key West Quarantine Station. July 18, 1889.

WERTENBAKER, C. P., assistant surgeon. Relieved from duty at Norfolk; ordered to Galveston, Texas. July 18, 1889.

GROENEVELT, J. T., Commissioned as assistant surgeon, July 11, 1889; ordered to Gulf Quarantine Station for temporary duty. July 20, 1889.

SOCIETY NOTICE.

THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS. — This Association will hold its next annual meeting at the Barnet House, Cincinnati, O., in the rooms lately occupied by the Military Order of the Loyal Legion, on Tuesday, Wednesday, and Thursday, September 17, 18, and 19, 1889. No formal invitations will be issued to non-members, but the Association hereby extends a cordial invitation, to such members of the profession wherever resident as may feel interested, to attend the meeting and participate in the proceedings. The papers and discussions will embrace subjects pertaining to obstetrics, gynecology, and abdominal surgery. By order of the President.

WILLIAM WARREN POTTER, *Secretary*.

BOOKS AND PAMPHLETS RECEIVED.

Book on the Physician Himself, and Things that Concern his Reputation and Success. By D. W. Cathell, M.D. Ninth Edition revised and enlarged. Philadelphia and London: F. A. Davis. 1889.

Bureau of Education. Contributions to American Educational History, Nos. 3, 4, 5, 6, 7. North Carolina, South Carolina, Georgia, Florida, Wisconsin. Washington: Government Printing-Office. 1888-89.

Lectures on Pathological Anatomy. By Samuel Wilks, M.D., F.R S., and the late Walter Moxon, M.D., etc. Third Edition, thoroughly revised. By Samuel Wilks, M.D., etc. London and New York: Longmans, Green & Co. 1889.

The Urine, the Common Poisons, and the Milk. Memoranda, Chemical and Microscopical, for Laboratory Use. By J. W. Holland, M.D. Illustrated. Third edition, revised and much enlarged. Philadelphia: P. Blakiston, Son & Co. 1889.

Munich a Healthy Town. Two Reports by Drs. M. von Pettenkofer and H. von Ziemssen, Munich, 1889. Reprint.

University Medical College of Kansas City (Formerly Medical Department of the University of Kansas City, Missouri). Ninth Annual Announcement and Catalogue of Sessions, 1888-89.

First Annual Report of the Methodist Episcopal Hospital, Brooklyn, N. Y. Covering a period of ten and one-half months, and ending October 31, 1888, with its History, Charter, etc.

Annual Announcement with List of Graduates from 1874 to 1889 inclusive, of the Hospital College of Medicine, Medical Department of Central University, Louisville, Ky. Session of 1890.

Cystoscopic Explorations by A. V. L. Brokaw, M.D., Demonstrator of Anatomy in Missouri Medical College, Assistant to the Chair of Surgery and Senior Assistant Surgeon St. John's Hospital, St. Louis, Mo.

Original Articles.

THE ANATOMICAL APPEARANCES RESULTING FROM POISONING BY ARSENIC.[1]

BY F. W. DRAPER, M.D.,
Assistant Professor of Legal Medicine in Harvard Medical School.

THE notes presented in this brief paper relate solely to that class of cases of arsenical poisoning which may be properly designated as acute—cases, in other words, in which death follows a single toxic dose of arsenious acid after an interval of time not exceeding forty-eight hours. The anatomical appearances here described will be, in the main, such as the writer has himself observed in his inspection of the dead bodies of persons who have killed themselves with arsenic. In these observations, the toxic effects of this poison have seemed to take a wider range and a more comprehensive character than the standard text-books of toxicology would lead one to believe. The writers with whom students of forensic medicine are most familiar, such as Taylor, Guy, Casper and Reese, give the distinct impression that arsenical poisoning is essentially an affair of the stomach and intestines, and that other organs and regions have either no interest at all, or an interest so remote as to be hardly worth mentioning. The appearances which the gastric and intestinal mucous membrane presents are generally described with great particularity of detail; and the color-effects, the red evidence of "irritation," are especially elaborated to impress the memory; for to nearly all authors of toxicological works, arsenic is a typical "irritant" poison, and, being such, its characteristic effect should be inflammatory redness. Moreover, it is fair to state that toxicologists are usually distinguished as chemists, not so much specially interested in the anatomical appearances of organs as in the best methods of recovering the largest amount of poison from those organs; if they see anatomical specimens from the victims of arsenic, it is not usually at the autopsy-table, but after an interval of hours or days, when the organs are submitted to them in the chemical laboratory, and after exposure to air and the conditions favoring decomposition have materially modified the original appearances. It is for these reasons that the descriptions which are given in the standard text-books on poisons, so far as they relate to the post-mortem appearances left by arsenic, are incomplete and unsatisfactory. I shall be pardoned, therefore, if in addition to the mention of certain anatomical features of arsenical poisoning, well-known because oftenest found in the books, I include other features less familiar, but scarcely less interesting or important, which I have personally noted.

Let us suppose, now, that the dead body of a man is found. He has taken a quantity of arsenious acid in secret with suicidal purpose, and has carefully destroyed all the evidences of his act and intent. He has died without antidotal treatment, and his dead body affords the only present available proof of the cause and manner of the death. What are the indications which the medical examiner finds at the autopsy to suggest to him that arsenic was the lethal agent, and to guide him as to the propriety of chemical confirmation of his post-mortem diagnosis?

It is not to be understood that these data for diagnosis are uniform in kind or in degree in all cases; in this respect, arsenical poisoning is not different from most pathological processes. The changes which result from the ingestion of a fatal dose of arsenic are subject to manifold modifications. The state of the stomach in its relation to the last meal of food, the amount of its fluid contents, and other conditions interfering with the direct disposal of the poison, will at once occur to the mind as factors to control the post-mortem appearances. Time, too, is an important element in the matter; the interval between the ingestion of the poison and the death of the patient, and the interval between the death and the autopsy, ought to be considered in this connection. But perhaps the most striking modification, and one that is not sufficiently noted in descriptions of the stomach and intestines after arsenical poisoning, is that due to the treatment which the patient receives. Much of the so-called "inflammation" in these cases is caused, without doubt, by the arsenic; but not a little of the redness of the mucous membrane is more readily traceable to the mustard and other emetics, to the iron and other antidotes, to the irrigation and other measures designed and applied with proper vigor and assiduity for the relief of the patient. Of the arsenical stomachs which I have seen, that one best fulfilled the description of the text-books which had received during the life of its owner copious doses of hydrated sesquioxide of iron urged upon her as long as she could swallow during the nine hours which intervened between her poisoning and her death.

Avoiding in our review of the post-mortem appearances referable to arsenic this and other sources of error as far as we can, let us study the anatomical changes which an uncomplicated case of acute poisoning would probably present.

Externally, the body would present but few indications of the cause and manner of the death. The facial expression usually suggests suffering in the last moments of life, in harmony with the characteristic clinical course of events. The degree of post-mortem rigidity is marked. If the subject is plethoric, widely extended patches of livid discoloration occupy the dependent parts of the body; sometimes, the dull bluish color of these lividities is replaced, in part, by a rosy red, a change particularly noticeable if the autopsy is delayed. The skin frequently shows another change from its normal post-mortem color or pallor, and this consists in a sallow or yellowish hue, suggesting icterus. I have observed in some instances a narrow line of ecchymosis upon the prolabial mucous membrane, that of the lower lip especially, to be explained probably as an incident of the clinical history of the poisoning, as it was most marked in cases in which vomiting was a marked symptom. Exceptionally, the tongue is seen to be reddened, but otherwise the cavity of the mouth and pharynx presents nothing remarkable.

Turning now to the internal parts of the body, let our examination take the usual course, as if we had no clue to the cause of the death and our inquiry of the several organs was to determine that clue and establish the diagnosis. Orth says:[2] "In medico-legal cases, in which a well-founded suspicion may be formed as to the cause of death, the rule is to begin with that cavity in which the suspected changes are to be found." In our present study we assume that we are not in

[1] Read before the Massachusetts Medico-Legal Society, October 3, 1888.

[2] A Compound Diagnosis in Pathological Anatomy, p. 40.

possession of this "well-founded suspicion," but that we approach our inspection without any bias or preconceived theory.

The brain and its envelopes will give us negative information. Although the brain is said by some chemical authorities to have a special affinity for arsenic, and that hence it has very great value as material for chemical examination, the presence of the poison does not leave any characteristic objective impress upon the organ. Most of the authors on toxicology make no mention of this region in describing the anatomical appearences due to arsenic; if any note at all is made, it is to remark that "congestion" is sometimes observed. In my own cases, the injection of the cerebral and meningeal vessels has been remarked mainly in cases in which morphia was used to allay the toxic symptoms.

The organs of the thoracic cavity next demand our attention. In cases in which death has followed quickly after the ingestion of a fatal dose of arsenic, the heart escapes injury; the color and consistency of its muscular tissue remain normal. But if life be prolonged beyond eight or ten hours, parenchymatous changes are developed, and the normal red color of the ventricular walls becomes changed to pale or yellowish, while the consistency of the muscular tissue is diminished and is friable under pressure, a condition betokening fatty degeneration. Just when this change in the cardiac muscle begins, it is difficult to state with definiteness; it is an early effect of arsenical poisoning and coincides with the absorption of the poison into the blood. It is certainly a rapid change and must be one of the factors in the cause of death. I have seen it in a case in which death followed after an interval of six hours; and, on the other hand, it was not manifest in the heart of a young woman who survived ten hours.

Another appearance in the heart, and one that I have been disposed to consider as characteristic of arsenical poisoning, is the presence under the endocardium of the left ventricle of ecchymoses, not larger than a dime and usually limited to the posterior wall or the interventricular septum. These ecchymoses are generally single, and they rarely exceed two in number. In depth they are superficial, section displaying simply a thin layer of blood under the endocardium. In one instance I have seen ecchymoses on the external surface of the heart under the visceral pericardium; they were about the size of a split pea, and were found mostly on the upper part of the left auricle between the aorta and the appendix auriculæ.

The blood in most cases is dark in color and fluid in consistency, whether it be observed in the right ventricle or in the large arteries. It is described as "syrupy" by some writers, but my cases have not yielded a result that could be designated by that term, unless the syrup were understood to be very thin.

Writers on poisons have not found anything noteworthy to state concerning the lungs, with reference to their appearance after death by arsenic. Yet there are one or two features growing out of the condition of the blood that seem deserving of mention. The fluid state of the blood permits its ready gravitation to the dependent portions; hence we generally find an unusual degree of hypostatic blood-supply. In some cases, the blood takes on color-changes which show best in the lungs; the anterior and upper portions are of a florid, almost vermilion hue; while the posterior and inferior parts retain their dark purple. The appearance of the lungs in these instances is not unlike the effect produced by carbonic-oxide poisoning. Another phenomenon referable to the blood is the presence of capillary hæmorrhages under the visceral pleura; these are few in number, varying in size from that of a mere point to that of a grape-seed, and they are usually limited to the lower parts of the lung and to the fissures.

Turning now to the abdominal group of organs, and following in our description the usual order, we note, in the first place, that the vessels of the peritoneum, in our hypothetical case of arsenical poisoning, are almost invariably injected to a marked degree.

The spleen gives us nothing of value in our search for data; so far as our present inquiry is concerned, it is of no service to us.

The kidneys present an interesting degenerative alteration, which has received less attention than it has deserved. In proportion to the length of time which has elapsed between the ingestion of the arsenic and the fatal result, these organs will be found to display, in greater or less degree, the evidences of parenchymatous change, due probably to the irritant action of the poison circulating in the blood and seeking an avenue for elimination. At first this change manifests itself in the form of "cloudy swelling," so-called, in which the kidney loses its normal grayish-red color and its firmness, becoming pale and soft and increasing somewhat in size. These changes progress till true fatty degeneration takes the place of the granular degeneration of the earlier stages, and the organ is yellowish gray, flaccid and enlarged. Its section shows a somewhat thickened cortex, yellowish gray in color, with marked opacity, and presenting yellow streaks and spots indicating fatty degeneration of the tubules. The contrast between this portion of the organ and the appearance of the medullary pyramids is distinct because the vessels of the latter are relatively full. Upon microscopic examination, the granular epithelium of the tubules shows an increase in its granular elements, with indistinctness of their nuclei.

These changes begin and go forward with remarkable rapidity, coinciding in this respect with the analogous degeneration of the muscular tissue of the heart. All conditions which favor the ready absorption of the arsenic promote the parenchymatous changes which have been described. In the case of a girl of sixteen, who took a box-full of "Rough on Rats" in water on an empty stomach, and died eighteen hours later, I found the kidneys presenting the characteristic appearances of the earlier stage of fatty degeneration. On the other hand, these appearances were absent from the kidneys of a young woman who died nine hours after swallowing half a box-full of the same handy preparation of arsenious acid.

The pelvic viscera yield no data that are of service in the post-mortem diagnosis of arsenical poisoning. Sometimes the bladder displays in its lining membrane some dull red spots, but these are neither constant nor characteristic.

The appearances presented by the œsophagus are of interest because the mucous membrane of this tube comes into intimate contact with the poison on its way to the stomach, and might well be expected to give local evidence accordingly. As a matter of fact, however, this canal is generally of normal appearance.

Rarely, there are patches or long narrow streaks of dull redness. In one case, in which the body of a woman was exhumed for examination ten days after her death, I observed some bright yellow deposits on the mucous membrane of the gullet, the result of the action of the sulphuretted hydrogen of decomposition upon the arsenious acid.

The stomach is the one organ which before all others possesses in the eyes of most medico-legal observers a paramount importance. It receives the poison immediately upon its ingestion, offers its extensive expanse of mucous membrane to the local action of the irritant, engages actively both in assimilating and in rejecting the unwelcome guest and takes in, as well, a variety of agents designed to expel or neutralize the toxic material. It is not strange, therefore, that the post-mortem appearances presented by this organ after a fatal dose of arsenic should have challenged the close attention of medico-legal pathologists. These appearances take a wide range in kind and degree. On the one hand, it is not a very rare occurrence to find a stomach which has suffered no damage whatever by receiving a poisonous dose of arsenic; so far as its gross appearances are concerned, it shows a surprising immunity from the effects which are supposed to be typical; and, studied by itself, it would readily be pronounced normal. On the other hand, we find appearances indicating to the fullest degree the irritant action of the poison, general redness, either of a bright scarlet hue or more often of a dull brownish shade, diffused and confluent in extensive patches of submucous ecchymoses or arranged in parallel streaks which on closer examination are found to represent series of minute hemorrhagic dots. Between these two extremes, each of which has but relatively few examples to illustrate it, we find all degrees and varieties. A common observation is to find the mucosa thrown into long folds or rugæ by the contractions of the muscular coat of the stomach, and these rugæ are marked at their summits by dull, brownish-red discolorations, or present numerous transverse red lines arranged so closely together as to give the effect of a continuous longitudinal streak. The part of the stomach mostly involved in the change is the pyloric end, and here the redness indicating submucous extravasation is generally diffused, giving the surface something like the appearance of red velvet. Occasionally, one is fortunate in finding deposited on the mucous membrane unmistakable evidence of the cause of death, in the form of thick, pasty, whitish-gray patches which are firmly adherent; these are surrounded by a line of vivid crimson, and if the pultaceous mass is carefully scraped away, the underlying mucous coat will be found to display a similar intensity of inflammatory redness, but without the erosion characteristic of an ulceration. Examination of the pasty material with a good lens reveals the typical crystals of arsenious acid. Besides this adventitious lodgement of the poison upon the gastric mucosa, one sometimes finds large areas of the surface covered with a layer of thick tenacious mucus, giving a suggestion of diphtheric exudation. There is, moreover, a swelling of the mucous membrane, demonstrated by the obliteration of the normal line of demarkation between the œsophagal mucosa and that of the stomach. The microscope detects in the gastric glands changes which correspond with those already described in connection with the heart and kidneys; namely, cloudy swelling of the cells lining the glands, followed at a later stage by their fatty degeneration. It is, perhaps, needless to add that the changes in the stomach due to arsenic are confined to the mucous coat, the muscular and serous coats escaping injury.

The contents of the stomach in arsenical poisoning deserve a passing word. Notwithstanding the violent vomiting which forms such a predominant clinical feature in these cases, the stomach is never found empty, but the amount of matter which it retains is often sufficient to excite surprise. Generally the contained matter consists of a pint or more of thin grumous fluid, brownish-red in color and without odor. Sometimes this fluid has a distinctly reddish tinge from the blood which it contains; if it be placed in a glass jar and allowed to stand a few minutes, this blood-stained portion forms a layer at the bottom, and its hæmorrhagic character is more easily demonstrated. An occasional feature in the gastric contents is the presence of white, soft, flocculent masses floating in the fluid.

The intestines present appearances which are analogous to those just described in connection with the stomach, but in general they are less striking; moreover, lesions of the gastric mucosa and those of the intestinal tract do not correspond in degree in the same subject, for it is not unusual to find typical hæmorrhagic gastritis fully developed, with scarcely any alteration of the intestinal coats. Of all parts of the small intestines, the duodenum shows the effects of arsenic most frequently and most satisfactorily; we observe here the same redness of submucous ecchymosis which the lining of the stomach presents. The summits of the mucous folds are especially the seat of the change; and here, too, one sometimes sees small patches of vivid crimson overlaid with a white pasty deposit, marking the lodgement of the arsenic. Other parts of the intestinal mucosa offer no constant lesion; it is most often found reddened in larger or smaller areas somewhat widely distributed. It is an error to fancy that arsenic leaves its irritant traces uniformly, and that in fatal poisoning by that agent there is in the intestinal lining a general diffused inflammatory redness from the pylorus to the cæcum; such wide-spread effects are occasionally seen, but they are the rare exception.

The contents of the small intestines are fluid, and in general resemble thick rice-water, through which are distributed flocculent lumps of soft whitish matter, and sometimes masses of the poison itself in the form of white, pultaceous collections. If the hæmorrhagic lesion of the gastric and duodenal mucosa is very marked, the blood which has escaped in consequence will give a brownish-red hue to the contents of the intestines.

The colon and rectum are almost always found contracted and empty, with a soft, swollen, grayish lining membrane, covered with white stringy mucus. The redness which is observed in the small intestine and the stomach is not continued in the lower bowel except in protracted or chronic cases of poisoning. It has not been my fortune to observe it in any acute case.

Last and largest in the list of organs which we question for evidence of poisoning, is the liver, the special store-house of the lethal agent. The one characteristic change wrought by arsenic consists of fatty metamorphosis, a change analogous to that ob-

served in the heart and kidneys. In gross appearance, we find the liver slightly increased in size, if changed at all, rather firmer in consistency than in the normal state, and displaying externally and on section circumscribed yellow areas; or, if the change has gone forward to an extreme degree, the entire organ presents a uniform light-yellow color having wholly lost its normal reddish-brown. Here, again, as in the heart and kidneys, the change is a rapid one, a few hours sufficing to reduce the organ from its normal state to a condition in which fatty degeneration and fatty infiltration are associated, the former a late stage of parenchymatous (granular) inflammation, the latter an incident thereto.

This review of the anatomical appearances left by arsenic upon the human body leads directly to the question which is of paramount medico-legal importance; namely, Is post-mortem diagnosis of arsenical poisoning an easy matter? That is to say, assuming, as we assumed at the beginning of this paper, that we are in the presence of a dead body of whose clinical history we know nothing, are the revelations of the autopsy sufficiently characteristic and unequivocal to warrant one in concluding readily that the death was by arsenic? The answer is in the affirmative, upon the single condition that the data are studied in their associated relation, and that their collective significance is the evidence which guides the examiner. There is no single organ whose testimony is sufficiently conclusive to control the diagnosis, with the possible exception of the finding of deposits of the poison upon the gastric mucosa, with a marked degree of inflammatory redness beneath and around them; but short of this, the condition of the stomach, however striking its inflammatory character may be, is suggestive only, the various degrees of irritant effects being explainable by numerous causes other than arsenic. But when, in addition to the presence of gastritis, one finds fatty degeneration of the heart, kidneys and liver, a fluid and dark condition of the blood, and sub-endocardial ecchymoses, he may with clear conscience testify in court that he is of the opinion that the death was by arsenic. In this conclusion, he would probably be confirmed by the results of a properly conducted chemical examination of the viscera. Indeed, without the gastric and enteric data, or with only an insignificant and equivocal degree of inflammatory reddening of the mucous membrane of the digestive tract, the concurrence of fatty changes in the heart, kidneys and liver should arouse the examiner's suspicions, and suggest to him the propriety of seeking the chemist's aid to verify his surmises.

In this paper, I have purposely refrained from discussing controverted questions relating to arsenic and its effects on the system, preferring to set forth in as clear and intelligible a manner as possible the anatomical data of acute arsenical poisoning as I have observed them or as they are agreed upon by standard authors, rather than to indulge in the examination of speculative points or to quote the diverse opinions of various writers upon unsettled problems pertaining to the main theme. Certain incidental topics, too, like the influence of arsenic on putrefaction, the technical methods of conducting a medico-legal examination in a case of arsenical poisoning, and the proper way of preserving and transmitting material for chemical examination, have been purposely omitted. If the simple and uncomplicated sketch here offered shall serve to promote the practical aims of legal medicine as represented in this Society, its design will have been fulfilled.

CEREBRAL SYMPTOMS CONNECTED WITH PHTHISIS.[1]

STATISTICAL PART OF THE PAPER.

BY J. B. AYER, M.D.

IN 1863, Dr. Clouston described a form of mental disease characterized by special symptoms, to which he gave the name of "Phthisical insanity." He stated that two to three per cent. of phthisical cases were followed by this form of insanity; but in looking over the McLean Asylum Reports eleven years ago, I found only five cases out of 5,116 attributed to phthisis, and in asylum reports generally, I find very few cases tabulated as of phthisical origin.

To aid in determining to what extent the adult brain is affected in phthisis, I have inquired into the history of one hundred and fifty-four cases of pulmonary consumption at the Channing Home, which have came under the care of Drs. Mason, Rotch, V. Y. Bowditch, Lovett and myself with the following results: twenty-five had mental disturbance; three others had convulsions; six others had the unreasonable assurance of improvement characteristic of spes phthisica, — the delirium of hope.

MENTAL DISTURBANCE.

CASE I. Miss M., twenty-three years of age, had been a patient at Danvers Asylum, making a good recovery. After her discharge she worked several months in a family, and then (March, 1886) began to cough. She entered the Home, September, 1886, and remained till April, 1887. She was reasonable when she entered, but toward the end of her stay had an attack of melancholia, and would speak to no one. She could not be cared for at the hospital, but was taken to her home, where she recovered from the mental symptoms in the course of nine months. Phthisical disease is steadily progressing, and she is emaciated and much troubled with coughing.

CASE II. Mrs. E., thirty-one years, Swede. Phthisis of one year's standing. On account of delusions left the Home abruptly at the end of nine days. Dr. A. L. Mason saw her afterward, and found it was necessary for protection to remove the children from the mother. Subsequent history unknown.

CASE III. Mrs. L., twenty-eight years, Swede. Advanced phthisis. She has had delusions due to that disease. She turned against her husband and against the Home, and was discharged at her own request at the end of ten weeks. She applied for re-admission but was declined on the ground of insanity.

CASE IV. Miss M., thirty-seven years at time of death. Phthisis of eleven years' standing. She never had a sound mind, and was partly demented during her stay of many years at the Home. The dementia was aggravated by pulmonary disease.

CASE V. Mrs. B., twenty-eight years, entered Home, July 3, 1880, with advanced phthisis of eighteen months' standing. No important change followed admission except that hallucinations of hearing de-

[1] Read before the Boston Medico-Psychological Society, January 17, 1889.

veloped. She imagined that patients in the lower ward were conspiring against her. On this account she desired to leave the Home, and was discharged.

Case VI. Mrs. C., twenty years. Phthisis dated from May, 1881. She left the Home, April 6, 1882, on account of hallucinations of hearing. She felt that we were going to kill her. She was admitted to the City Hospital, and again taken back to the Home. She became quite clear, and disturbed no one during the last four weeks of her life. She died in June, 1882.

Case VII. Mrs. Mary S., thirty-eight years. The wife of a physician who had been Mary's employer, writes: "Mary had been most respectful and amiable; but three years before her death she changed her manner, would speak abruptly and at times was abusive. During several months these were the only symptoms noticed, and only at a later date was lung trouble discovered." In the Home she was querulous, suspicious of patients, and said that her brothers were persecuting her. She felt that people were coming into the kitchen and talking about her in an unfriendly way. She died at the Home in May, 1888, (after seven months' residence there). During the last month of life she was quite clear in mind, and seemed anxious to make amends for all the trouble she had caused.

Case VIII. Mrs. D., forty-two years old when she entered in December, 1883. She found fault with the patients, and would, without provocation, suddenly throw her food across the table. She complained that her mug of milk was not of as good quality as that of the other patients. She thought her food was poisoned. She would astonish visitors by "putting on airs." Nevertheless, she was able to remain in the Home two years and nine months, at last developing tubercular peritonitis. During the last six weeks of life her delusions had for the most part disappeared, and she became tractable again.

Case IX. Miss P., twenty-five years of age, left the Home January 21, 1881, on a bitter cold morning, saying that she was in great trouble. She also took sudden leave of other homes and hospitals. Hallucinations of hearing.

Cases X. XI, XII. In these three patients the mental symptoms were those of extreme uneasiness with a desire to abruptly change their residence.

Case XIII. Mrs. M., fifty-six years. Phthisis began in 1880. She was admitted in August, 1884, and died November, 1884. During the last few weeks of life she became noisy, and disturbed other patients by praying in a loud voice and on all occasions.

Cases XIV, XV, XVI, XVII. These four patients had delusions about food, etc. Occasionally abusive.

Case XVIII. Miss F., thirty years. Phthisis of eight months' duration on entrance. She lived three months in the Home and greatly annoyed the other patients by scolding her cough in a loud voice. "Bad manners to you," she would exclaim in addressing her cough. Toward the end of life she became deaf, and was more quiet, but did not become clearer in mind.

Case XIX. Miss B., thirty-three years, would not permit her family to know her whereabouts. She left the Home ten days before her death, giving this reason, "I do not wish Mary (one of the patients) to have the opportunity of saying that I am laid out in a coffin down stairs."

Cases XX, XXI, XXII. All three patients began to wander in mind during the last four weeks of life.

Case XXIII. Mrs. G., forty-two years, died at the Home three months after admission, and twenty-one months after the disease began. Three years before death she began to scold, which was the first symptom. It was not an annoying form of insanity. She talked about ghosts and imaginary people visiting her. At table she would forget that she had been served and would say in the mildest possible way, "nobody has waited upon me." Hallucinations and delusions continued to the end of life.

Case XXIV. Mrs. C., twenty-five years. Phthisis lasted twenty months. She interested patients with wild romances about herself. At times she regarded herself as an exalted personage.

Case XXV. Mrs. M., twenty-seven years. Came from Lying-in Hospital five weeks after confinement, and died two weeks after admission. Mild delirium, constantly trying to get out of bed.

CONVULSIONS.

Case I. Miss O'B., had epileptic attacks at the age of five, and when she entered the Home, September, 1879, one year after the appearance of phthisical disease the epileptic attacks occurred once in two weeks. She died in October, 1885. Her mind was always clear except during the attacks which occurred at rarer intervals as the pulmonary disease progressed.

Case II. Mrs. B., twenty-five years, entered April 8, 1884, with extensive disease of both lungs dating from July, 1883. Convulsions began April 28, 1884. She died June 6, 1884. Four convulsions in all.

Case III. Miss C., now forty-eight years, coughed since 1871. Spinal deformity and active lung disease when admitted to the Home in 1881. Pulmonary disease has progressed very slowly since admission. In September, 1886, she began to be forgetful and to have epileptic convulsions which now occur once in two or three weeks. She is at times greatly confused and does not recognize her physicians. Approaching dementia.

SPES PHTHISICA.

At least six of the one hundred and fifty-four patients clung to a hope which under the circumstances was most unreasonable.

One patient upon the day of her death insisted upon being dressed and upon walking across the room without help. She could not realize how weak she was and kept asserting that she was going to get well, and would burst into tears if any patient hinted that she might not recover.

Another patient, forty-nine years of age, was in the habit of visiting a mind-cure physician and always returned in a happy state. Although hardly able to stand she would report "They tell me there is nothing the matter with me, so I know I am going to get well." Three days before her death she left the Home for fear of "taking consumption."

This proportion of cases of marked Spes Phthisica is undoubtedly small when compared with the experience of private practice.

Dr. Mason explains this circumstance by the fact that most of the patients had been informed previous to their admission that their condition was either serious or incurable.

In many of the cases a strange indifference regard-

ing the state of their health was noticed, and, as a rule, there was less anxiety shown regarding their condition than one would expect.

In explanation of most of these cases of mental disturbance it is not necessary to assume a tubercular deposit in the brain for tubercular meningitis in the adult is not of frequent occurrence.

Probably anæmia, œdema of the brain and the hectic condition will account for most of the cerebral symptoms described.

No *special form* of brain disorder existed in these cases; on the contrary there was the greatest variety of mental disturbances ranging all the way from insanity adapted to asylum treatment down to the mildest form of delirium and the enviable "delirium of hope."

There were no *constant* delusions nor hallucinations. Suspicion, uneasiness, and desire for change were most frequently noticed.

In two of the cases the mental symptoms preceded by several months the discovery of pulmonary disease.

In four cases the mental disturbance *commenced* during the last month, while in three cases the mind grew clearer during the last four weeks of life.

As we ordinarily see consumptive patients in private practice, the proportion of these cases showing mental disturbance may seem a large one, but it must be remembered that a Consumptive's Home affords an excellent opportunity to study cases allowing a continuous oversight of the patients, and generally for a long period.

COPAIBA IN SURGERY.

BY H. H. A. BEACH, M.D.,
Visiting Surgeon to the Massachusetts General Hospital.

IN the long-continued use of copaiba as an internal remedy, its value in surgical dressings may have been gradually lost sight of, until now it lies among the rubbish of forgotten things that excite only the interest of the antiquarian, its connection with a living and progressive art having in some unaccountable way become severed.

Some years ago, while reading the interesting description of "Medical, Surgical and Anatomical Cases," published by Lawrence Heister, in London, 1755, I was much impressed with the importance he attached to the balsam of copaiba in his dressings, and determined to test the drug in that capacity. It was accordingly applied to an indolent granulating surface, by first saturating charpie with the balsam, and after squeezing out the superfluous balsam, bandaging the charpie upon the ulcer. The unusually rapid growth of a handsome bed of rosy granulations, ready for the grafting process, was so clearly attributable to its use, that I continued to employ it, and finally adopted it as regular dressing to granulating surfaces in my hospital wards. It is simple, cheap, quickly prepared, and most satisfactory in its results. Its use has gradually spread to the wards of my colleagues at the hospital, and it is now an accepted dressing; being especially adapted to the flat, pale, granulating surfaces that commonly result from avulsions of the scalp, extensive burns and scalds, also for the cavities after operation for removal of necrosed and carious bone. It has succeeded in raising healthy granulating surfaces for grafting after other stimulating applications had failed. At the hospital it is applied with cotton-waste instead of charpie. The waste can be easily picked apart and cut into short bits by convalescents. The porous nature of the dressing permits a ready absorption of pus and of its partial disinfection by the copaiba, which imparts a fragrant balsamic substitute for the sourish odor of pus partly decomposed. On the chances that its activity as a dressing depended upon the copaivic acid which it contains, I have also applied that substance with a negative result.

PROGRESS IN DENTISTRY.

BY W. H. ROLLINS.

OBLIQUE-ROOTED TEETH.[1]

THIS abnormality, which is rare, has been observed exclusively in the upper first molars. The normal position of the roots of these teeth may be represented by three dots arranged in this way, ⁘ In oblique-rooted teeth the roots are arranged as follows, ⁛ The history of the extraction of these teeth is given, and the important point to remember is that in all attempts to extract, the forceps rotated. Whenever this rotation is met with in attempting to extract an upper molar, the operation should be postponed till a suitable instrument is ready, otherwise damage will be done to the other teeth or to the jaw.

PALATAL RUGÆ IN MAN.[2]

The conclusions of this writer are: The range of variation in the roof of the mouth and its folds is greater in persons affected with nasal catarrh than in those who are free from the disease. The variations in the rugæ are different on the two sides of the mouth. The excess of development of the premaxilla, and of the horizontal plate, especially the anterior portion, constitutes a condition which is found in about fifty per cent. of cases of nasal catarrh.

Nasal catarrh is found associated with so many phases of asymmetry of the rugæ of the hard palate and of the dental arches, that the disease should be studied as a morbid action which is based upon morphological elements, and not alone on climatic conditions.

STRUCTURE OF DENTINE.[3]

These experiments were suggested by those of Dr. Ord in etching the surfaces of mother-of-pearl and ivory by placing them in glycerine containing subcarbonate of potash. In order to apply this method to the dental tissues, a few experiments were tried, and as a result, it was found that not only other alkalies but also pure glycerine would produce the appearances, showing that the glycerine was the real active agent. To prepare for the experiments, freshly extracted teeth were ground and formed into thin sections, which were allowed to remain in glycerine for periods varying from one to six months. Examined with the eye, the teeth were found to be more transparent than usual. Under the microscope, the dentine bordering the pulp cavity was seen to present a fringed appearance, and was slightly laminated. Under a higher power, this was shown to be due to the dentinal tubes having lost the intertubular substance, the removal of this matrix leaving the tubes free; their course appeared interrupted at intervals

[1] Pearsall, in Journal British Dental Association, p. 38, 1889.
[2] Allen, in Dental Cosmos, p. 66, 1889.
[3] Bennett, in British Journal Dental Science, p. 1121, 1888.

by layers of membrane having a general direction parallel to the pulp. These layers looked like globular dentine. In this case, however, the globules were not solid, and the dental tubes could be seen crossing from one space to another. It is as yet too early to decide upon the significance of these appearances, but enough has been said to show the value of this new method of studying the hard tissues of the teeth.

TREATMENT OF POST-NASAL CATARRH.[4]

Seventy-five cases are reported, of which sixteen were cured by removing nasal obstructions. The importance of this treatment from a dental point of view, lies in the fact that the patients can use their noses to breath through. Where persons breathe through the mouth, the gums invariable become congested, recede, and the teeth become loose.

ANOMALOUS PAROTID DUCTS.[5]

There were six children in the family, three of whom had small openings just in front of the ear, from which there was a continuous discharge of saliva. On examination it was found that these openings were the outlets of the parotid glands. The other children had the openings of the glands in the normal positions. Inquiry showed that the abnormal openings were present in the cases of two cousins. All the other relations examined had normal ducts.

FUNCTIONS OF THE TONSILS.[6]

The significance of the various tonsils is in their relation to the blood-manufacturing system and to the outpour of copious secretions. The relations of the tonsils to the rest of the system can be well appreciated by comparing them with the relations of the sewage farm to the town whose refuse it makes use of, and to which it returns its elaborated products. If any of the secretions delivered to the tonsils become contaminated with irritating matters, whether generated in the system, or introduced from without, the tonsils in physiological correlation with the affected secretion show irritative changes.

STAPHYLORRAPHY.[7]

A return to this operation is recommended, instead of trusting to obturators as is usually done in this vicinity. His objections to obturators are that they require frequent removal to keep them clean, and that among the poor the expense of the apparatus prevents its use. In the same journal, Grant favors obturators, unless the operation for closing up the palate includes the introduction of new tissue by grafting between the edges of the cleft. He suggests that, if such grafting is resorted to, protection should be temporarily given to the lower surface by a plate of rubber or some other hard material.

EXCESSIVE ABSORPTION OF THE ALVEOLI A CAUSE OF NEURALGIA.[8]

The patient tried in vain to wear an artificial plate, but was unable to do so on account of the severe pain which it caused. An examination of the alveolar border of the lower jaw showed marked absorption, the inferior dental nerve coming so near the surface that the plate pressed upon it.

[4] Reynolds, in Boston Medical and Surgical Journal, p. 208, 1889.
[5] Crossman, in Southern Dental Journal, p. 289, 1888.
[6] Spicer, in London Lancet, p. 805, 1888.
[7] Porter, in Boston Medical and Surgical Journal, p. 21, 1889.
[8] Mitchell, in Journal British Dental Association, p. 47, 1889.

IMPLANTED TEETH.[9]

The results of implantation obtained by those operators who have given most attention to this new operation, are tabulated, and eighty-four per cent. reported as successful. The authorities differ as to whether the teeth become of the same color as the other teeth, and also as to the means by which the teeth become attached. On this latter point they are about equally divided between simple mechanical means, membranous attachments, and anchylosis.

DENTAL REFLEXES.[10]

Several interesting cases are reported of apparent diseases of the eyes caused by the teeth; namely, spontaneous dilation of the pupil, diagnosed as the beginning of locomotor ataxia, but which he cured by extracting a carious molar; a case of blindness, cured by extracting a tooth; asthenopia of the accommodation, cured by the extraction of two upper molars, which had been filled with gold; several cases of spontaneous movements of the eyelids in children, cured by lancing the gums or by the extraction of decayed teeth; ulcerations of the cornea, cured by lancing the gums during teething.

CARIES OF THE TEETH.[11]

The number of children reported as having been examined was 623, about equally divided as to sex. Of this number forty-eight had sound teeth. None of the children were over fifteen. The teeth examined were classified as follows:

SOUND TEETH	Temporary		3225
	Permanent		7600
			10825
CARIOUS TEETH	Temporary		1875
	Permanent		1944
		Total,	3819

This table shows that over thirty-four per cent. of the individual teeth were decayed.

The mixed saliva was also tested in each case, but no attempt was made to separately examine the saliva of the individual glands. The average of the chemical reaction between the ages of five and fifteen was 72.36% neutral, 25.64% acid, and 2% alkaline. Ottofy claims that decay is less frequent in cases of neutral than it is in cases of alkaline or acid saliva. I doubt this in cases of alkaline saliva.

I give in detail his results of examination of the saliva, as I know of no similar and extended examination.

TABLE SHOWING THE REACTION OF THE MIXED SALIVA AT VARIOUS AGES.

5 years.	75	% neutral.	25	% acid.	0	% alkaline.
6 "	61	"	39	"	0	"
7 "	61	"	39	"	0	"
8 "	84	"	14	"	2	"
9 "	67	"	31	"	2	"
10 "	77	"	16	"	7	"
11 "	73	"	27	"	0	"
12 "	69	"	30	"	1	"
13 "	74	"	22	"	4	"
14 "	90	"	10	"	0	"
15 "	65	"	29	"	6	"

He finds caries more prevalent among the girls, amounting to thirty-seven per cent. at five years, being never less than twenty-four per cent., and in some instances as high as fifty per cent.; while, in boys, the

[9] Smith, in Dental Cosmos, p. 803, 1888.
[10] Galezowski, in British Journal Dental Science, p. 795, 1888.
[11] Ottofy, Cosmos, p. 15, 1889.

maximum at any age was thirty-four per cent., and the minimum sixteen per cent. At all ages, during the eruptive stages, caries was more prevalent on an average among the girls, by five per cent., than among boys. The total average at all ages among these children was twenty-seven and a third per cent. in males, thirty-two and two-fifths per cent. among girls, and thirty per cent. in both. This indicates that among the school children of this country thirty per cent. of the teeth are decayed before the age of fifteen, and shows how widespread a disease caries has become.

FILLING MATERIALS AS CONDUCTORS OF HEAT.

In cases of near approach to the pulp, the conductibility of the filling to be used should be carefully considered. Kells[12] has made a most important addition to our knowledge in this matter, through the introduction of his thermostat. This consists of a disk of zinc slightly concave and held rigidly at its edges by a hard rubber base. Through the back of the base is introduced a finely threaded screw, which almost impinges on the centre of the disk. The thermostat is placed in an electric circuit, which is broken by the want of contact between the zinc disk and the screw. To test the conductibility of the filling material, little cups are made of the different kinds to be tested, and water warmed to 140° F., is placed in them. One at a time they are placed on the zinc disk, and the time noted till the heat has expanded the zinc disk and closed the circuit, which is announced by a bell. By means of this machine he finds that gutta-percha is the only filling material which we have, that has a low power of conducting heat, and therefore that this is the only safe material to place near an almost exposed pulp. The oxyphosphates and oxychlorides are good conductors, and should never be placed near a pulp unless it is protected by a layer of gutta-percha one-sixteenth of an inch thick. No filling material at present known is so poor a conductor of heat as the natural covering of dentine and enamel.

OBTUNDING SENSITIVE DENTINE BY ELECTROLYSIS.[13]

Apply the rubber dam to the tooth, dry the cavity, soak in a six per cent. solution of cocaine in alcohol. Place the positive pole of a four-cell battery in the wet cavity, and apply the other pole to the cheek for three minutes. The writer claims that this completely destroys the sensibility of the tooth.

ELECTRICITY IN THE OPERATING-ROOM.

A writer in the *Dental Cosmos* makes the following suggestions as to the introduction of the electric current into the operating-room from the streets: The possibility of accidents demand the most careful construction of the apparatus, and the most thorough insulation of the motor for the engine and the mallet. There should be safety appliances to cut off any accidental augumentation of the current. Finally, as the current for the arc lights is more destructive than that from the Edison and similar dynamos, the current from the latter should always be taken when it is possible to obtain it.

COMBINATION FILLING.[14]

A matrix of thin German silver is to be applied to the tooth, and held firmly by suitable ligatures. Into the cavity thus made, amalgam is to be packed till the cavity is two-thirds full; then Steurers gold is packed against the amalgam till the gold ceases to lose its color, when the filling may be completed with gold foil. Dr. Clapp states that by means of this new crystal gold of Steurers, a filling can be built up out of gold and amalgam at one sitting that is better for cavities that extend under the gum than an all-gold filling. The time to make the filling is greatly reduced, and this is an important point, the filling is thought to be better than one entirely of amalgam, as this is apt to crack at the edges from mastication.

EFFECT OF NITROUS OXIDE.[15]

There is a progressive loss of carbonic acid in the gasses expired from the lungs under the inhalation of nitrous oxide. This is not associated with the accumulation of carbonic acid in the blood, and must therefore be due to diminished production in the tissues, or to defective absorption by the blood. In order that carbonic acid may be produced, free oxygen, or some substance capable of yielding it, must be present; but under nitrous oxide the free oxygen is displaced by nitrous oxide, which is not decomposed in the system; hence during the inhalation of nitrous oxide, the process of tissue metabolism and the production of free carbonic acid is in abeyance. What effect has nitrous oxide on the heart? Comparison of the pulse-trace taken from the same individual before and during the inhalation shows that during the height of anæsthesia, the number of strokes is increased; they have a greater height and greater sharpness of the initial curves and apices. Tidal wave is almost absent, while the dicrotic wave is accentuated, and farther from the apex of the trace.

NITROUS OXIDE AS AN ANÆSTHETIC.[16]

Nitrous acid has been said to produce anæsthesia in several ways. By entering the lungs and being split up into oxygen and nitrogen either in its passage through the pulmonary epithelium or in the blood or tissues through which the blood passes. In disproof of this splitting up, we have Frankland's experiments, which show that practically all the nitrous oxide can be recovered from the lungs, and also the experiments of Bert, which show that oxygen cannot produce anæsthesia; while Sanderson, Turner and others have proved that nitrogen cannot produce anæsthesia, if, therefore, nitrous oxide can produce this effect, which its constituents are incapable of producing, we may suppose it does not undergo decomposition.

Anæsthesia from nitrous oxide cannot be due to a deoxydation of the blood; for when you asphyxiate an animal by allowing him to breath into a long tube, no anæsthesia is produced, the animal remaining sensitive as long as alive. Buxton holds the view that nitrous oxide produces a specific effect due to its composition. The experiments of Bert, which have been mentioned in a former report on dentistry, seem to prove his view. Bert mixed oxygen with nitrous oxide, and thus was enabled to maintain complete anæsthesia for any length of time, a whole day, in some of his experiments.

Beside the effects I have already mentioned, there are others which may be mentioned in connection with the blood and circulation. Nitrous oxyde when

[12] Southern Dental Journal, p. 414, 1888.
[13] McGraw, in Dental Review, p. 169, 1889.
[14] Clapp, in Dental Cosmos, p. 870, 1888.
[15] Silk, in Dental Record, p. 466, 1889.
[16] Buxton, in British Journal Dental Science, p. 228, 1888.

it enters the blood becomes loosely associated with the hæmoglobin and myoglobin. The blood of animals under it show less oxyhæmoglobin, but as the blood exposed to the air readily gives up the nitrous oxide, the connection must be a slight one. The watery portion of the blood also absorbs the gas, but as yet there are no data which show that any changes are produced. The most important effect upon the circulation is due to its effect on the nerve centres that govern the heart. In the early stages the heart appears little affected, but later it is slowed to a slight extent. The force of each beat is increased, as before mentioned, and its regularity maintained. If the anæsthesia is pushed until respiration ceases, the heart still beats, the pulsation becoming gradually slower and at last ceasing. If artificial respiration is begun, the heart recovers its regular beating. The blood pressure in deep anæsthesia is lowered, but this is not progressive.

With regard to the injurious effect upon the kidneys, a point which has been raised against the gas, Buxton claims that, as the blood pressure is lowered and the bulk of the kidneys reduced, it is difficult to believe there can be any congestion in these organs.

So far as these elaborate experiments go, nitrous oxide is the safest anæsthetic known, and when given by Bert's method, the most perfect and lasting.

TEST FOR SULPHOCYANIC ACID IN THE SALIVA.[17]

Precipitate the mucus with alcohol, reduce the volume of the saliva by heat, dilute it with water, and add a few drops of an aqueous solution of cupric sulphate. This will immediately produce a fine emerald green color.

CHEEK PLUMPER.[18]

In certain cases of excessive absorption of the alveoli it is necessary to attach to the artificial teeth bunches to distend the cheeks, to restore the original contour of the face. These cheek distenders were the invention of Dr. Allen, but as they were hard and not movable, they interfered with the expression when the face was not in repose. Wall proposes to make them movable, so that they will follow all the motions of the muscles of the cheeks. He does this by making them of light and thin material, and attaching them to the plate by means of springs.

IMPRESSIONS FOR OBTURATORS.[19]

The ordinary or Suersen method is an attachment to the plate, and extends backward into the cleft. When the impression is to be taken, this projection is covered with soft gutta-percha, and placed in the mouth, the patient being directed to swallow and talk, so that the soft gum may be molded into proper form by the muscles of the soft palate and pharynx. The difficulty met with is in adjusting the backward extension of the plate, so that it shall not be distorted by the contraction of the muscles. The invention of Shenker consists in providing a round rod with a metal shield at the end, movable so that it can be adjusted to suit the muscles before the impression is taken. The contraction of the muscles of the pharynx pushes the shield forward, and when it is in the proper position it is fixed, and the impression can be taken with certainty.

[17] Therapeutic Gazette, p. 57, 1888.
[18] Wall, in Journal British Dental Association, p. 41, 1889.
[19] Shenker, in Dental Review, p. 715, 1888.

CONCLUDING NOTES.

Dr. Andrews has accomplished a great feat in photographing the germs which produce decay. He has made sections of decayed teeth, and has been able to show by photography all the appearances described by Miller in his investigation of caries.

Black has published an extremely complete monograph on the periosteum and peridental membrane which should have been mentioned in my previous report, but could not be properly noticed at that time.

The friction between those dentists who believe patents unprofessional, and those who patent all their ideas and charge the profession for them, is greater this year than ever before; and it is difficult to see where the matter will end. Great efforts have been made by the Massachusetts Dental Society under the lead of Dr. Merriam, to introduce non-patented devices to the members of the profession, and to induce the dentists to purchase their materials of houses who are not in the Dental Trust.

The year is marked by the formation of a Dental Protective Association, the object of which is to raise a fund out of which to pay the legal expenses of the members who may be sued by the great companies which are gradually patenting about all the operations performed by dentists. This matter of patent rights is becoming more serious every year. There is no remedy for the present state of things. We must wait till the professional spirit prevents dentists from taking out patents and selling them. At present the majority of dentists believe in patents, and only object to them when they are not their own, and when they feel the effects in the shape of royalties and suits at law for infringments.

Clinical Department.

ULCER OF THE STOMACH, AND ITS COMPLICATIONS.[1]

BY I. J. CLARKE, M.D., HAVERHILL, MASS.

PATIENT, N. J. F., aged forty-two, office clerk. Came under my care October 20, 1883. Family history was good, and there was nothing in the patient's history to account for his disease unless it be the fact that he had formerly been intemperate. His health till within a short period prior to above date had been excellent.

Symptoms: There were the ordinary symptoms of a mild attack of indigestion. Patient complained of a pain just below sternum. The pain was believed to be gastric (gastralgia). There was distress after eating. An anti-dyspeptic mixture of pepsin, bismuth and nux vomica was prescribed. The uncomfortable symptoms increased in severity. Patient had a profuse hæmatemesis the evening after his first visit to my office; the loss of blood caused him to faint. This was followed by another hæmorrhage the next day, which much prostrated him. Five days afterwards there was a return of the hæmatemesis, which was followed by five more similar attacks; the loss of blood in all was estimated at more than four quarts. Great prostration, with loss of consciousness and general convulsions ensued. All food was witheld; hypodermic injections

[1] Read before the Essex, North District Medical Society, January 9, 1889.

of ergot and stimulants were administered; cold was applied externally; Monsell's solution was given by mouth, and nourishing enemata were resorted to. Opium was also given per rectum, and the patient was kept thoroughly under its influence. Under this treatment he recovered sufficiently to be removed to the City Hospital, Boston, where he made a fair convalescence.

I next saw the patient June 7, 1884; and from that time occasionally until the middle of December, 1885. During this time he complained more or less of his old trouble, but there was no return of hæmorrhage, and he was able to attend to his business.

In September, 1885, a consultation was held with Dr. F. Minot, of Boston, who confirmed the diagnosis of ulcer of the stomach. Dr. Minot did not see any reason to regard the patient's condition as complicated with malignant disease. Peptonized milk was suggested and pretty large doses of bicarbonate of soda. Patient was still able for several months to attend to his business, when one day he lost consciousness and was sent to the Massachusetts General Hospital. There was no hæmatemesis, although hæmorrhage was suspected. He remained in the Massachusetts General Hospital nearly five weeks.

I saw him again June 20, 1886; he was then suffering from indigestion, pain and flatulence, also vomiting and inability to assimilate but small quantities of food, which was given often, a spoonful at a time. There was marked emaciation and loss of strength. There was considerable dysphagia, the cause of which was obscure.

Dr. Minot again saw the patient July 15th. He did not see reason to change his diagnosis, no tumor was perceptible to palpation. Dr. Minot thought the prognosis very unfavorable. Peptonized foods were continued although nothing seemed to nourish. Food was generally vomited as soon as introduced into the stomach. Nutritious enemata were resorted to for four weeks prior to death. The pain became very severe, assuming the character of the pain of peritonitis, and death occurred August 30th.

The autopsy revealed a mild general peritonitis, more particularly in the region of the stomach and pancreas. The peritoneum was adherent to the stomach and pancreas. The coats of the stomach showed acute and chronic interstitial gastritis, and five ulcers, averaging about the size of a ten cent piece, also a scirrhous cancer involving the whole stomach and head of pancreas. Two of the ulcers were situated upon the anterior and three upon the posterior wall. Two were exactly opposite each other, about one inch from the pyloric orifice, these surfaces coming closely in contact. One may possibly have been caused by the irritating pus of the other. Both seemed to be in the same stage of cicatrization. Of the five ulcers present, three were healed, and presented a peculiar pale rugous appearance; they projected above the level of the surrounding tissues. The two that were in process of repair, showed a healthy granular condition, discharging a creamy pus, and were about half cicatrized. The walls of the stomach were about half an inch in thickness, and were transformed into a scirrhous tissue which projected here and there in the form of hard nodules which so obliterated the cavity of the stomach that it would not contain more than four ounces. The character of the disease invading the head of the pancreas was the same. Large accumulations of fæcal matter were found in the transverse colon, which accumulated in great measure from the persistent flatulence.

The above can hardly be looked upon as a typical case of ulcer of the stomach. Some may see reason to think that the cancerous disease was primary, and the ulcerous secondary. Leube says that the combination of carcinoma with round ulcers of the stomach is particularly interesting, not only from a pathologico-anatomical, but also from a etiological point of view. In 160 cases Dietrich found this combination eight times; in some of the cases, cicatrices of the healed ulcers existed unconnected with the cancer; in others the carcinoma appeared to be implanted upon an old ulcer. Waldeyer speaks of quite superficial nodules with an indurated, slightly granular, ulcerated base, which were with difficulty to be distinguished from simple round ulcers, even with the aid of the microscope; and he comes to the conclusion, "that there is no pathologico-anatomical reason why a process which at first is simply ulcerative may not in time be converted into a cancerous one, if the epithelial elements of the wall of the stomach instead of passively disintegrating, take part in the proliferation of the border of the ulcer." [2]

Reports of Societies.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

TWENTY-FIFTH Annual Meeting, held at the Pequot House, New London, Conn., July 17 and 18, 1889.

WEDNESDAY MORNING SESSION.

The Society was called to order by the President, DR. WILLIAM F. NORRIS, of Philadelphia.

The first paper read was

AN ANALYSIS OF NINETY CASES OF SIMPLE CHRONIC GLAUCOMA, WITH SPECIAL REFERENCE TO THE EFFECTS OF IRIDECTOMY UPON THE ACUITY OF VISION AND THE VISUAL FIELD,

by DR. CHARLES STEADMAN BULL, New York.

Detailed histories of the ninety cases were presented and the following conclusions formulated.

In endeavoring to draw some rational conclusions from the study of ninety cases, it seems wise to begin with a quotation from Priestly Smith, to whom ophthalmologists owe so much of their knowledge of the pathogeny and pathology of glaucoma.

(1) In considering the expediency of an operation in chronic glaucoma, he says, "In every case of chronic glaucoma, the responsibility of advising an operation is a heavy one, and should on no account be undertaken without a full explanation to the patient or his friends of the almost positive certainty of blindness on the one hand and of the uncertainties which beset the operation on the other. Having regard to the age of the patient, the impossibility of great benefit, and the possibility of a painful and accelerated progress, the prudent surgeon will only operate on the express desire of the patient to secure the only possible chance of benefit, however small it may be." Armed with the preceding precaution, it seems to be our duty to operate in cases of chronic progressive glaucoma, and the earlier the better.

(2) If the disease in a given case seems to be stationary and is still in the primary stage, and if it be

[2] Ziemssen's Cyclopædia, vol. vii, p. 236.

possible to test the vision and the visual field at short intervals, delay in operating is permissible; but a weak solution of eserine or pilocarpine should be used daily, merely as an aid in controlling the course of the disease. The examination of these patients should be at short intervals, and should invariably include tests for visual acuity and the careful examination of the visual field.

(3) If the disease exists in both eyes, but with useful vision in both eyes, the eye in which the disease is the more advanced should be operated on without delay; and the surgeon will be guided in his treatment of the fellow-eye by the result of the operation on the first eye.

(4) To insure the best result, the incision should be made well in the sclerotic, with a narrow cataract knife or a broad lance knife; and the entire iris, from one end of the incision to the other, should be carefully torn or excised from its insertion.

(5) The most carefully performed iridectomy by skilful hands is sometimes followed by rapid loss of what sight still remains, sometimes partial, but unfortunately, sometimes total.

(6) A successful result is, in the majority of cases, more likely to follow the operation if it is performed early in the course of the disease; but the maintenance of the existing degree of vision, even in these cases is not invariable.

(7) As regards the question of symmetry, it is probable that in the large majority of cases, probably as much as eighty per cent., the disease is sooner or later present in both eyes; and a careful study of the cases seems to establish the fact that there can be no specific interval of time which insures the second eye against an attack.

(8) If the patient is old and feeble, and one eye is still free from disease for a year or more after the other eye has become affected, it may be considered prudent to avoid an operation on the affected eye, as it is probable that the unaffected eye may remain free during the remainder of the patient's life.

(9) The condition of the field of vision is no constant guide either in forming a prognosis as to the progress of the disease or in deciding as to the time of operation.

(10) The acuity of vision bears no constant relation to either the success or failure of the operation.

(11) The anterior chamber is usually shallow, is occasionally entirely absent, but is often apparently normal in depth. The condition of the chamber gives no reliable hint as to the state of the vision or the visual field nor any indication as to prognosis.

(12) The appearance and motility of the iris appear to have some bearing upon the prognosis, though perhaps not to the extent believed by Nettleship. The latter states that in the cases in which the iris reacts rapidly to eserine the operation proves successful. This has not always been the experience of the reporter, but in the majority of the cases in which eserine caused rapid contraction of the pupil, the visual acuity was fairly good and the field was not seriously limited.

(13) The depth of the excavation in and the color of the optic disc seem to have no close connection with the defective vision or with the limitation of the visual field, nor did they offer any constant guide as to prognosis or to the effect of an operation upon the progress of the disease.

(14) The condition of the intra-ocular tension is a very uncertain guide in deciding the time for operating. It may be normal or increased or even diminished. It does not even seem to bear any constant relation to the degree of visual acuity or to the state of the visual field. The steady maintenance of the increased tension, however, without any diminution, almost invariably indicates the necessity for an immediate operation, and this necessity is as especially indicated if the tension is continually on the increase.

(15) The health and age of the patient exert a decided influence upon the effect of the operation. Any marked evidence of senility is distinctly unfavorable to operation.

DISCUSSION.

DR. H. KNAPP, New York: During the past 19 years I have operated on 670 cases of glaucoma, 226 of which were cases of chronic glaucoma. I think that the prognosis may be a little more favorable than has been indicated by Dr. Bull. I have had four cases in which maglignant disease followed operation for chronic glaucoma. I do not agree with the author as to the advisability of the continued use of pilocarpine or eserine in those chronic cases where operation seems doubtful. I advise its use when there are recurrent symptoms. In prognosis I am guided a great deal by the condition of the iris. My operations have been done with the lance-shaped knife. I consider it of great importance to carefully reduce the edges of the coloboma, not only by external pressure but also by the use of the blunt probe. I am also careful not to make the operation too peripheric. Peripheric wounds are more liable to cystoid scars.

IRIDECTOMY IN GLAUCOMA,

by DR. EMIL GRUENING, New York.

The speaker classified the different forms of glaucoma under the following heads: (1) acute inflammatory; (2) chronic inflammatory without visible degenerative changes in the iris; (3) chronic inflammatory glaucoma with visible degenerative changes in the iris; (4) simple glaucoma; (5) intermittent glaucoma, and described cases illustrative of these different varieties.

DISCUSSION.

DR. S. O. RICHEY, Washington: I do not believe simple chronic glaucoma to be entirely a local affection. I think that it is a local expression of a cause to be looked for in the nervous system. I have used eserine with satisfaction in the early stages, but support it by galvanism applied to the cervical ganglia. In some cases this will enable us to avoid operation.

DR. SAMUEL THEOBOLD, Baltimore: I have met with one case in which an attack of pronounced acute glaucoma was cut short by the use of eserine.

DR. C. S. BULL, New York: Eserine is frequently used in too strong solution. A solution of half a grain to the ounce may cause iritis after a single instillation. I never use a stronger solution than this. I often use one as weak as one-tenth of a grain to the ounce.

DR. B. ALEXANDER RANDALL, Philadelphia: I can confirm the remarks in regard to the value of weak solutions. In one case of severe absolute glaucoma a solution of one-eighth of a grain to the ounce was entirely successful in relieving the pain. It has been used steadily for three years with no recurrence of the severe symptoms, and without the intervention of any inflammatory trouble.

DR. S. D. RISLEY, Philadelphia: In experimenting with weak solutions of eserine, I have found that a distinct effect was experienced from a solution as weak as one-thirtieth of a grain to the ounce. If this was applied three times a day, it would in two days cause distinct brow-ache. I have seen benefit from weak solutions where stronger solutions failed to give relief.

DR. HENRY D. NOYES, New York: One point to which my attention was called many years ago is that in certain instances of evident glaucoma with a large amount of refractive error, it has seemed that the aggravation of the glaucomatous disease has been dependent upon the accommodative strain. In operating I have gradually withdrawn from the extremely peripheral place of incision. I prefer to come closer to the border of the cornea than some do. This involves less risk and is easier of performance.

DR. SAMUEL THEOBALD, Baltimore: My experience tends to convince one that astigmatism and particularly astigmatism against the rule, is frequently the cause of glaucoma.

DR. ARTHUR MATTHEWSON, Brooklyn: In one case of glaucoma in which iridectomy had been done without arresting the progress of the disease a large ingestion of strychnia caused a decided improvement of vision, which continued. I have used it in other cases with good effect.

THE USE OF THE CURETTE IN ANTERIOR TRACHOMA,

by DR. EMIL GRUENING, New York.

The speaker after referring to the various measures proposed for the relief of this condition, described an operation which he had employed in eleven eyes during the past two years. A six-per-cent. solution of cocaine was first instilled. The surface of the cornea and the vessels present were then scraped away with a gouge-shaped instrument and the vessels followed well on to the conjunctiva. The eye is then washed with boric-acid solution and warm compresses applied for four or five days. In three cases new vessels formed and the operation was repeated. The ultimate result in all the cases was highly satisfactory. In old and protracted pannus this operation may be recommended for its directness, simplicity and efficacy.

DISCUSSION.

DR. S. D. ST. JOHN, Hartford: I have used this operation in one case with the highly gratifying result of increasing the vision from $\frac{4}{200}$ to $\frac{16}{200}$. This has since still further improved.

DR. H. F. HANSELL, of Philadelphia, read a paper on

CORNEAL ABSCESS,

describing its symptoms, and referring to the differential diagnosis between it and ulcer. He protested against the use of cocaine in abscess or other inflammatory conditions of the cornea. A few drops of strong solution will often destroy the epithelium. Instillation of eserine alternating atropine was recommended. Operative interference should be limited to the evacuation of the pus.

FURTHER OBSERVATIONS ON MALARIAL KERATITIS,

by DR. CHARLES J. KIPP, Newark.

The author had called attention to this condition in a paper read before the Society in 1880. He had seen one hundred and twenty cases of the disease. In all there had been paroxysms of malarial fever and in ninety per cent. the corneal inflammation followed a few days after a paroxysm. In twenty-five per cent. the patients had suffered from similar trouble in previous attacks of malaria. The inflammation of the cornea occurred in the form of serpiginous ulceration, with narrow prolongations. The trouble began as a line of small grayish elevations, which soon broke down forming a furrow of ulceration. In mild cases the duration is two or three days, while in severe cases it may last several months. There is a marked tendency to recurrence in subsequent attacks of malarial fever. In a few cases he had seen a similar affection in non-malarial individuals. The treatment consists in remedies directed to the general condition and in mild cases with warm fomentations. In severe cases a one-per-cent. or two-per-cent. solution of nitrate of silver applied directly to the furrows after the use of cocaine answers well. In some very severe cases the actual cautery was employed. This arrested the progress of the disease and stopped the pain, provided the malarial trouble had previously been cured.

DISCUSSION.

DR. HENRY D. NOYES, New York: During the past fifteen or twenty years, I have met with cases of superficial keratitis due to malaria. It is rare to find the deeper tissues invaded. I am led to suspect a malarial origin in cases where there is exaggerated tenderness of the supra-orbital nerve and distinct anæsthesia of the surface of the cornea. The form of ulcerative keratitis which has been described I regard as of mycotic origin and have cured it by scraping thoroughly the lines of infiltration.

DR. T. Y. SUTPHEN, Newark: I have seen cases similar to those described by Dr. Kipp in patients suffering with malaria and where there has been no distinct chill; the individuals have resided in malarious districts.

DR. JOHN GREEN, St. Louis: I have seen many cases in which malarial fever was followed by superficial keratitis or keratitis modified by neglect or improper treatment. I have not met with the form described by Dr. Kipp.

DR. EMIL GRUENING, New York: I have seen this form of ulcerative keratitis but I have associated it with the teeth. These patients have had tartar on the teeth and have been in the habit of moistening the lips with saliva. I think, therefore, that the source of infection is in the mouth.

DR. SAMUEL THEOBALD, Baltimore: I have also seen for many years this keratitis associated with malarial trouble. These cases do not always show ulceration of the cornea. I have in a general way regarded this condition as analogous to herpes zoster. I have once or twice seen iritis associated with the keratitis following malaria. In one case of malaria I have seen this keratitis with herpes zoster of the temple.

IRRIGATION OF THE ANTERIOR CHAMBER,

by DR. J. A. LIPPINCOTT, Pittsburgh.

This procedure is useful for the removal of débris in cataract extraction and of clotted or liquid blood. In order to accomplish this successfully it is necessary to have an apparatus which can be readily made and kept aseptic; which will always be ready for use; which can be easily handled and the movement con-

trolled with one hand; whose ejecting force is capable of being easily regulated; and which is free from liability of forcing air bubbles into the anterior chamber. As fulfilling these requirements he exhibited an apparatus consisting of a small metal receptacle with which was connected a rubber tube ending in a metal nozzle, the flow of liquid being controlled by a short piston in a rubber handle through which the rubber tube passed. The ejecting force can be varied by elevating or lowering the receptacle.

DR. GRUENING, of New York, exhibited a small flask devised by von Graefe for the same purpose.

DR. DAVID WEBSTER, of New York, exhibited

TWO SPECIMENS OF SWORDFISHES' EYES.

DR. HENRY D. NOYES, New York, exhibited a

SPECTACLE FRAME

in which the nose-piece of the eye-glass was combined with the ordinary spectacle frame.

ENUCLEATION OF THE EYE IN PAN-OPHTHALMITIS,

by DR. HENRY D. NOYES, New York.

There has been reported by various observers thirty or forty deaths following enucleation, almost all from meningitis, about one-half of the fatal cases have occurred after enucleation during acute suppurative pan-ophthalmitis. At the New York Eye and Ear Infirmary there has been no deaths from this cause, when no additional operation in the orbit, such as the removal of tumors, etc., have been done. The number of enucleations, from 1868 to 1888, was 1,164; the number of eviscerations, 17. Pan-ophthalmitis existed is 14 per cent. of the cases. It seems fair to conclude that while a small risk to life is incurred by enucleation of the eye, the supposed increased risk by the existence of suppurative pan-ophthalmitis as not so far justified by the facts as to bar its performance in this condition.

(To be continued.)

BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

PHILIP COOMBS KNAPP, M.D., SECRETARY.

JANUARY 17, 1889, DR. COWLES in the chair.

DR. J. B. AYER read a paper on

CEREBRAL SYMPTOMS, CONNECTED WITH PHTHISIS.[1]

DR. H. R. STEDMAN said that the paper was an interesting study of the affinities between tuberculosis and mental disturbance, as viewed from the standpoint of the tubercular symptoms. The affinity was particularly marked in heredity. Cases of hereditary insanity were often seen in phthisical families. In children the mental trouble was more likely to be delirium.

DR. BOLAND thought the mental trouble rather a coincidence, from anæmia, œdema, etc., as we see it in cardiac disease.

DR. FISHER said that the relation of phthisis and insanity was important, and most writers think it an intimate one from an hereditary point of view. Phthisis usually has the effect of producing nervous diseases and insanity in the second generation. Phthisical insanity was a term used by several writers, especially Skae; but most of Skae's terms were convenient clinically, though incorrect scientifically. He had used the term himself, applying it to cases where advanced phthisis was the sole discoverable cause of the mental condition. The only characteristic is a prolonged and rather active delirium, with or without hallucinations. The condition varies with the physical health. A boy of seventeen, with a phthisical heredity and tuberculosis of both lungs, emaciated, and in a hopeless condition, became so excited and actively delirious as to be sent to the Boston Lunatic Hospital. He had various relapses; but as his physical condition improved, his mental trouble got well. Fatigue, would however, bring on a relapse. Another patient, who had some joint disease and phthisis, had two attacks of delirium before her death. Both had hallucinations of sight and hearing. For such cases phthisical insanity was not a bad term.

DR. MOULTON said that many cases of insanity had a phthisical heredity. It is an important element in causation, and it is not to be lost sight of in prevention. He used the term, which seemed as good as any for certain cases. Many insane patients develop phthisis, which is attended with a clearing up of their mental symptoms.

DR. E. P. ELLIOT thought it impossible to rely much on asylum statistics, for a diagnosis from etiology is now out of fashion, and the etiology is always vague. Nevertheless, there was much phthisis in the asylums. There were two sorts of cases: one, where phthisis is developed in the chronic insane, the insanity not being modified by phthisis; the other, where mental trouble comes on after phthisis. There is some similarity between them. Delirium is not common, but they are often chronic cases of vague and not well-systematized delusions of persecution. These are usually termed phthisical insanity. It is useless to set this apart, as it is not confined to phthisis, but it is seen in any patient with debilitating disease, cancer, cirrhosis, or alcoholism.

DR. COWLES said that phthisical insanity always seemed a faulty term, showing the unsatisfactory nature of the etiology of insanity. If there is a direct etiological relation between phthisis and insanity, why is there so little insanity with so much phthisis? There are two forms in which the etiology is traced. One by heredity, which is not direct. Phthisical parents have defective offspring, but they are not always insane. Phthisical persons have a weak and unstable heredity. Such cases are prone to mental disturbance with physical debility, which gives a reason for the association of insanity with phthisis. Being defective, the patient has phthisis. We ought to see more insanity among the phthisical than we do. Phthisis and insanity in a single person shows the unsatisfactory character of the etiology of all forms of insanity. If there were a relation, it ought to be in a characteristic form. Insanity, on the whole, is of an asthenic type. There were only two cases at the McLean Asylum. One lady with advanced phthisis, was melancholy, depressed, tearful, agitated and slightly suicidal. She had an exacerbation of the phthisis with fever, and in it got better mentally. At first there was a poor brain nutrition, but the fever caused cerebral congestion, and thus improved the nutrition. Another lady with mild melancholia and phthisis, grew worse, had hectic, and got better mentally. Toward the close she showed considerable mental activity, painted in water-colors and had the spes phthisica. It was hardly correct to use the term phthisical insanity, except to show that

[1] See page 128 of the Journal.

phthisis co-exists, for there is so much phthisis and so little insanity.

DR. AYER said that his percentage of mental disturbances was large as compared with ordinary experience. That was perhaps because at the Channing Home the patients were constantly associated with the matron and the attendants, and there was an excellent opportunity to study slight mental changes.

NEW HAMPSHIRE MEDICAL SOCIETY.

REPORT of the Ninety-ninth Annual Session held at Concord, N. H., June 17 and 18, 1889.

DR. A. P. CHESLEY, of Concord, read a paper on

PHYSICAL CULTURE.

DR. M. W. RUSSELL, of Concord, made a

REPORT ON SURGERY.

After giving three cases of punctured wounds, where the general treatment was free incision to the bottom of the wound, and tobacco and flaxseed poultices applied to the wound, he said: The members of this Society who attended the lectures of the late Dr. Dixi Crosby will remember the importance which he attached to freely incising to the bottom all punctured wounds, in order to prevent tetanus. He claimed excellent results from this mode of treatment. In treating these cases, I introduce the knife a little to one side of the wound and carry it as deep or a little deeper than the instrument penetrated, and then cut outwards freely. I should do this even at the risk of dividing the plantar or palmar arch, if the injury was in the neighborhood of these vessels; as I firmly believe that the advantages of the operation infinitely outweigh the damages of this accident. I have great confidence in the tobacco poultice in these cases. It seems to act as a sedative, removing the irritation of the peripheral nerves.

Another case, of "a slight injury to the distal extremity of the finger of a healthy person," was followed at the end of twenty-four hours by pain and by tonic contraction of all the fingers of the injured hand. Pain more or less severe, and swelling of the hand, were symptoms which characterized the next four days; but there was so little inflammation at the seat of the injury that a free incision healed firmly by first intention. On the fifth and sixth days the pain was much less, and the swelling diminished? Then, suddenly, without apparent cause, the pain became intense, and mortification ensued within fourteen hours. What produced the obstruction to the arterial circulation which resulted in gangrene? In what way did the slight wound of the distal end of the finger cause suppuration in the hand? Were all the symptoms the result of injury to a nerve?

A male patient was admitted to the hospital January 21, 1889. About three weeks previous to his admission he was struck upon the dorsal aspect of the ring finger of the left hand by the sharp edge of a hatchet, which inflicted a flesh wound only. This was followed by inflammation and extensive swelling, and later by suppuration in the hand and finger. Previous to his admission, the back of the hand had been freely incised, and pus had discharged freely. At the time of his admission a large pocket of pus in the palm of his hand was opened. At this time the original wound was not healed, and its edges were swollen, excited and ragged. The whole hand was badly swollen and had an erysipelatous blush. January 23d, the finger was amputated at the metacarpo-phalangeal articulation. The first phalanx was entirely denuded of periosteum, and so softened as to easily break in pieces. The bone gave no evidence that it was injured by the blow. After the operation the swelling subsided rapidly, but suppuration kept up for two weeks. The wound healed as readily as could be expected, and the patient was discharged well, February 10, 1889. This patient was a robust and apparently healthy man, and the wound was comparatively a small one made by a sharp instrument. It was such a wound as we should expect to heal fully in a week. Instead of this, necrosis of the bone set in and abscess of the hand resulted.

The importance of the early removal of cancerous growths is now acknowleged by a larger part of the medical profession. It is most probable, if the fact has not been positively demonstrated, that the spread of the disease to other parts and the formation of accessory foci is due to the carrying of granules detached from the parent cell to surrounding or even distant tissues. I believe that all tumors, the nature of which is at all in doubt, should be removed at once, if they are in a position which permits their removal, and further that the operation should be thorough and radical. I think it is a fact that tumors which are at the beginning free from any taint of malignancy, may at a later period become the seat of a malignant growth. It is not consistent with our knowledge of carcinoma to suppose that these growths are cancerous at the beginning. It is much more probable that they furnish a structure peculiarly adapted to the development of cancerous tissue. It is an important question whether the early removal of these tumors might not have prevented entirely the development of cancer in the patient.

DR. J. J. BERRY, of Portsmouth: The method of treating punctured wounds, as described in the paper, I should consider a very effective and proper one. If I had reason to believe, in a given case, that the wound contained septic or other foreign material, or that much internal laceration existed, I should follow the methods advocated in this paper. In other cases, however, I should feel inclined to wait a little before enlarging the wound and increasing the area of granulating surface.

DR. G. P. CONN, of Concord, read a paper on the

DISPOSAL OF GARBAGE.

The disposal of garbage in our small towns and cities is not a question of special importance, but in populous places the problem of what shall be done with the waste from the household is found to be of importance second to none other. Fortunately, in New Hampshire we have but few towns and cities so populous or so crowded as to require the attention given to places reckoning their population by hundreds of thousands. But the crowding of our summer hotels and camp-grounds, unless properly guarded and protected against unsanitary conditions, cannot but become a source of unhealthfulness, probably of infectious disease; and it is to this that I desire to call the attention of the physician. Many of these places have fairly outgrown the expectations of their projectors, and therefore little or no thought has been taken of what to do with the drainage, garbage or waste products, and at none of

them has there been any adequate provision made for the disposal of the waste and garbage incident to such crowds.

It is apparent that this problem is growing year after year in New Hampshire; and, as all of us have under our care families who spend days, weeks or months at such resorts, we should warn them of the care necessary to protect their health.

I would be glad if I could bring before you some definite plan that would be inexpensive, but entirely satisfactory in its manner of dealing with the disposal of garbage and other waste matter. But while experts are examining into the merits of various methods, no one has, as yet, solved the problem.

To the profession is granted the high privilege of being teacher and adviser, and our power for good and for evil is very extensive. In matters like this, whenever the public seriously demand reform, the work is, in some way, accomplished. When the people of a town or city are a unit upon any question there is no trouble in bringing about the necessary means to complete the work. So it will be in the future disposal of garbage; and it behooves the profession to be leaders in public opinion, rather than to follow in the wake of others. We should encourage the public in making the best use of our present means and to hope for something better within a reasonable period.

DR. CHILD: I understand that near Boston there has been a furnace built, and men go round and gather up every piece of pie, scrap of biscuit, crust of bread, etc., and put it into this furnace and thoroughly dry it. I do not know the exact process, but we can readily imagine it. After being thoroughly dried, it is placed in flour barrels and sent into the country for hens' food, etc. It makes a perfectly healthy food, so far as I can see. I believe this will be one way of disposing of garbage.

DR. ROBERT BURNS, of Plymouth, read a paper on

THE USE OF ANTISEPTICS BY COUNTRY SURGEONS.

The surgeon of the city, with all his expensive appliances and machinery and skilled assistance, may find the aseptic method of treating wounds practicable; but the country practitioner, who must forego those aids, and who finds his patients oftentimes in anything but aseptic surroundings, must resort to other and simpler methods.

All my surgical instruments and dressings are carried in one small hand-bag. I have carbolic acid, tablets of corrosive sublimate and iodoform. Needles, knife-blades and other small instruments are kept in a 1 : 60 carbolic-glycerine solution. After using and cleansing, they are put back into this solution, and thus are always ready for immediate use. Other large instruments are put into a 1 : 40 carbolic solution some time before needing them. My bag contains silk on a reel, and drainage-tubing, both in a 1 : 4000 solution of corrosive sublimate. Sterilized sponges are carried in a 1 : 1000 corrosive-sublimate solution, and suitable pieces of oiled silk are put in the same, some time before using.

After the flesh adjacent to the wound has been thoroughly washed, both skin and raw surface are bathed in a corrosive-sublimate solution, the strength varying between 1 : 1000 and 1 : 5000, in inverse proportion to the extent of the raw surface. After the incisions are completed, the cut surfaces are washed for a considerable length of time in a 1 : 4000 corrosive-sublimate solution, hot enough to check bleeding, to blanch tissue, and to render the parts thoroughly aseptic.

For ligature I use silk, and cut the ends short. If the wound is a large one and necessitates the use of a drainage-tube, I do not think that it makes much difference whether or no the ligatures are cut short. But if the wound be small, if there be no drainage-tube, or if it be early removed, I consider that the long ends of the ligatures prevent absolute healing in a short space of time. These short silk ligatures either become absorbed or encapsuled. They give me no trouble, and I get healing by first intention through the full extent of the wound, which is not closed until every particle of oozing blood has ceased. For healing, I depend largely on the most careful and accurate approximation of the parts.

After the wound is closed, and thoroughly washed with a 1 : 4000 corrosive solution, iodoform is used freely, as wounds seem to heal more kindly with it than without it. After this a piece of sterilized oiled silk large enough to cover the wound is applied. This is used for two purposes: to prevent the sticking of the dressings, and to keep the plasters which cannot be rendered aseptic from contact with the wound. Over this is placed several layers of sublimate or carbolic gauze, then a large piece of oiled silk to cover the whole, which is bandaged in the ordinary way. Subsequent dressings I do, if possible, myself, and make them as few and far between as may be. On redressing, the wound is generally found to be so clean that the usual washing is simply a process of dampening with an antiseptic solution.

Since I began the constant and systematic use of antiseptics, I have seen most cases heal without a drop of pus. In simple amputation I have come to expect healing by first intention, except around the drainage-tube, and solid healing by from twenty-one to twenty-eight days after operation. As a rule I greatly prefer the action of corrosive sublimate to that of carbolic acid as an antiseptic. But if I know of the existence of albuminuria, or suspect any latent tendency to disease or congestion of the kidneys I am very careful to avoid it.

It will be seen that my method is exceedingly simple, so simple that it would hardly be a matter of interest except for the fact that its very simplicity makes it practicable, and this especially adapts it to the unassisted country surgeon. It is now something over two years since I have seen a touch of surgical fever in my own practice, and in uncomplicated surgical cases, I have rarely seen a temperature above 100°. I now get healing of large cut surfaces by first intention as a rule, formerly it was the exception.

DR. W. B. PORTER, of Walpole, read a paper on

PNEUMONIA: ITS MORTALITY AND THERAPEUTICS.

For patients in the sthenic condition, the first remedy given by the highest German, French and American authorities is the use of cold-water compresses over the chest, or packing the whole body in cold packs. With patients of asthenic diatheses, I use hot-water compresses saturated with turpentine. In both classes of patients, if the tongue is coated, indicating some constitutional disturbance, I use mild aperients of some kind to act upon the hepatic and other secretory vessels. I often use a pill from Dr. Whitbeck's formula, as follows, with the very best results:

Podophyllin	1-4 grain.
Aloin	1-6 "
Capsicum	1-10 "
Nux vomica	1-10 "
Extract belladonna	1-10 "
Oleum tiglii	1-20 "

I give the pill once every three hours until the bowels move. If a periodicity occurs in the fever, I give a few grains of quinine at short intervals.

In our next visit, we find the second stage developing. The physical signs are all much worse, increased engorgement, vesicular murmur destroyed, loud and full bronchial respiration, mucus râles, crepitation, high temperature, rapid and tremulous pulse, respiration forty per minute, with dyspnœa and marked bilious complications. I resort to calomel. I lay out four or five powders from ten to fifteen grains, with five to ten grains of Dover or Tully powder, and order the nurse to give one every four hours. I repeat until I get the specific effect upon the liver and bowels.

At this stage, I change the wet compresses for counter irritation, then apply a warm poultice over the irritated surface, still using the febrifuge spoken of before, and in some cases, using aconite instead of digitalis, which might be unsafe to use on account of cardiac conditions. Mucilaginous drinks, together with expectorants, are required to moisten the tissues, and empty the bronchial cells of their purulent deposit. If the patient is suffering from prostration, stimulants and tonics are required.

I am not in favor of the use of antipyretics in large doses. I use them in small doses to quiet nervous excitement. In vigorous, full-blooded persons, with a temperature of 105°, pulse 120, lungs engorged, intense pain, great dyspnœa, threatened suffocation, I would open a vein in the arm or temporal artery, and should collateral œdema occur in portions of the lungs not congested, endangering life, I would bleed. Then if the pressure of blood caused brain symptoms, coma, and transient paralysis, I would use the lancet to prevent brain lesions and sudden death.

DR. THOS. HILAND, of Concord: I believe that less dosing and more taking care of your patient will give you a better result in pneumonia than to try to dose him every hour or two hours. No doubt Dr. Porter's cases do well under his treatment: but his cases do well or not in spite of a good deal of the treatment. I do not care who has charge of a patient of ten, fourteen, fifteen, or sixteen years of age, if you will give him half a chance, he will get well of ordinary pneumonia; but the old, the feeble, the young child, the person who has been on a debauch, these are apt to die; and there is no use in dosing them to death.

DR. M. C. LATHROP, of Dover: I have never in all my practice, heard of a case where bleeding has been resorted to in pneumonia. There may be cases where I should do it myself but I have never done it.

DR. WILLIAM CHILD, of New Hampton, read a paper on

THE USE AND ABUSE OF NARCOTICS AND ALCOHOLICS,

which was written in the humorous vein so characteristic of the author. In closing, he said: I have presented this theme to direct your attention to what we cannot ignore. We must aid in advancing these questions of reform, not by denunciation, intrigues, and harangues; but by a common-sense examination and discussion, holding to the proper use but restraining the abuse of any and all good gifts from the Creator. I am sure that a higher and better education will bring about the needed reform. I cannot see that we should demand the annihilation of narcotics and alcoholics.

DR. D. S. ADAMS, of Manchester: The medicinal use of alcohol, I fully believe in. We cannot come more fairly to a decision as to when to use it, than to look over "Pepper's System of Medicine." This is written by American authorities, and the general opinion therein contained would be the American idea. In looking over that work, I find that alcohol is recommended in twenty-nine different diseases only. I was a little surprised to find that in twenty-two of these diseases, it was recommended for almost the same symptom or condition of the system (depression of the heart's action).

DR. E. W. CUSHING, of Boston, addressed the Society on the subject of the

DIAGNOSIS OF PELVIC TUMORS.

Recent Literature.

An Elementary Treatise on Human Anatomy. By JOSEPH LEIDY, M.D., LL.D., etc. Second edition, rewritten, with four hundred and ninety-five Illustrations. Philadelphia: J. B. Lippincott Company. 1889.

This second edition of Professor Leidy's well-known work is to all intents and purposes a new book by the leader of American anatomists. The learned author implies in his preface that it is not meant to be of the same scope as the great English anatomies. It is an elementary treatise, and we gather that it is essentially a report of Dr. Leidy's course at the University of Pennsylvania. This surmise adds greatly to the interest with which we review the book. From the fact that the treatise is an elementary one, it follows that many matters of detail must be omitted, and to omit judiciously is one of the most important attributes of a teacher. We find also that the author has departed from the usual order of presenting the different divisions of the subject, and that he has accepted some modifications of the established nomenclature.

As to the order of the work, the microscopic anatomy is scattered throughout the book in a way that mars the unity of treatment of that branch. Thus the minute structure of bone comes at the beginning, while that of cartilage comes with the so-called connective tissues, just before the muscular system. Surely bone is in structure one of this group, and should not be artificially separated from the rest. Many of the illustrations of the tissues are decidedly diagrammatic, and rather suggestive of black-board sketches. We think the author has shown good judgment in the amount of space given to histology. He has given what is absolutely essential for a course of lectures on anatomy, and, from this point of view, we praise omissions and summary descriptions which could not be permitted in a treatise on histology.

The bones and joints are taken together, an excellent plan in our opinion; then comes the muscular system; then the alimentary apparatus; which is followed by the vascular system; then comes the other

viscera; and finally the nervous system and the organs of special sense. There are obvious reasons why the method of English anatomists in putting the vessels and nerves before the viscera should be abandoned. It is, to say the least, unsatisfactory to describe the arteries of the duodenum to students still in happy ignorance of the shape and position of that difficult organ. Therefore, we see good reasons why the alimentary apparatus should precede the vessels and nerves, but we do not see why all the other viscera should not do so likewise.

The descriptions of the bones are strong, clear and concise, not overburdened with details. In some of the bones of the skull, especially the temporal, the author allows himself freer play, and the result is admirable. The account of the sphenoidal spongy bones is the only one we call to mind which is at once comprehensive and clear. We regret that we cannot speak with equal praise, or indeed with praise at all, of the treatment of the joints. It is wanting both in accuracy and in thoroughness. To define rotation as "the motion made by a bone when it rolls on its axis" and to add, for an illustration, "as in the movements of the radius upon the ulna," is misleading. The following account of the movements of the ribs is most unsatisfactory: "The chief movement of the thorax, as in breathing, consists in partial rotation of the ribs on their axis, up and down, where they articulate with the vertebræ, facilitated by somewhat similar motion in the costo-sternal articulations. In the movement, the ribs are alternately raised and depressed from their fore part." We doubt if the student will understand what is meant by the axis of the rib, and would submit, moreover, that the motion of the longer ribs on an anterio-posterior axis is a secondary factor of importance, to say nothing of the free movement of the last two ribs. We are told that, "in the ordinary opening and closing of the mouth, the condyles of the lower jaw rotate on their long axis within the glenoid fossa." One has only to put one's finger on the head of the jaw, and open the mouth, to find that the former moves forward and downward; but it would stay in place if it rotated on its axis.

The section devoted to muscles is very good, though now and then we wish that a little more had been said of their actions. This is the natural place to discuss the changes in nomenclature which Professor Leidy had adopted, for these changes are more striking in the muscular system than elsewhere. As he states in the preface, he has not attempted a radical change, which he justly believes would be more confusing than profitable, but has tried to use simple names, and to change them as far as possible into English. We think he has been very successful; but we believe he would have been still more so had he used out-and-out English words instead of hybrid Latin and English composites. As an example, he has simplified the *extensor ossis metacarpi pollicis*, the *extensor primi internodii pollicis* and *the extensor secundi internodii pollicis* into the "first, second and third pollical extensors" respectively, which is a decided gain; but we submit that it would have been far better to have called them the "first, second and third extensors of the thumb." The *peroneus longus* becomes the "long peroneal," but by a strange inconsistency the *tibialis anticus* is the "anterior tibialis," instead of the "anterior tibial." Worst of all, is the "terete," which had much better have been the "round" pronator. These blemishes appear to be owing to the author not having sufficiently adhered to the wise plan he had proposed. A change which seems to us unfortunate is to turn the *lobus Spigelii* of the liver into the "caudate lobe," as the latter term is usually applied to what is here called the isthmus.

We must pass on more rapidly. We are glad to find the muscles of the tongue, the palate and the eye described in connection with these organs. The vascular system calls for no special notice. The treatment of the brain is very satisfactory. The veteran teacher of anatomy has shown the result of his experience in giving just enough, and in given it well. The same may be said of the chapters on the organs of sense.

The illustrations are of varying merit, but in the main hardly as good as the book deserves. The bones of the carpus and tarsus, as well as the ossicles of the ear, should be larger, and the same may be said of the illustrations of the convolutions, which would gain much by greater size. We must remark, by the way, that it is to be regretted that one of the brains chosen to show the convolutions should present decidedly uncommon features.

The book, in spite of some shortcomings, is an admirable one for the purpose the distinguished author had in view. It is, to be sure, less complete than the ambitious and interested student would wish, but it is just the thing for the great mass of students. It is clear; it is, with some exceptions, sufficiently accurate; and it is of convenient size, with good type and paper.

T. D.

Φυσιολογικαὶ Πραγματεῖαι ὑπὸ τοῦ τῆς συνόλου ἰατρικῆς διδάκτορος ἐπιτίμου ταύτης καθηγητοῦ διαφορῶν ἐπιστημόνων τε καὶ φιλολόγων, ἑταίρων τε καὶ συλλόγων ἡμεδαπῶν τε καὶ ἀλλοδαπῶν ἐπιτίμου μέλους ἢ προέδρου, της ἄυτου Α. μεγαλειότητος τοῦ Σουλτάνου ἀρχιάτρου, κ. τ. λ. Σπυρίδωνος τοῦ Μαυρογενους.

Εν Παρισιοις, ἐκ τῆς τυπογραφιας, "ο ἀστὴρ."

The universality of medical and physiological science receives a new exemplification when we take up a book like this, founded on researches of French and German physiologists, written by a Turk, published in the Greek language, and printed at Paris. The volume in hand is one of over 317 pages, and is written by Dr. Maurogenos, (a name which seems from its composition to imply a still furthur extension of the cosmopolitan make-up, already referred to in the book), the physician-in-chief to the Sultan. It treats of several subjects: first, of the differences between the sexes, as to size, the appearance of the tissues and the blood, the strength, development and longevity, the performance of functions, mental activity, etc. The closing sentence only of this section reveals an occidental conservatism and a mournful lack of responsiveness to the social advancement of the western world, when he says, with a warm exclamation, Πρὸς Διός! "let men be men and women be women!" A section on life and soul, and their relations to each other follows with considerations of a physiological and psychological nature, and the last half of the book is occupied with observations upon sleep, wakefulness, and on the phenomena of sleep, dreams, somnambulism, etc.

— The tooth-pick mills of Maine have mostly shut down, says the *Druggist Circular*, on account of overproduction and inability to dispose of their stock. An important outlet for the lumber product seems to be thus cut off.

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THE UNICITY OF BRIGHT'S DISEASE.[1] — II.

IN 1870, Klebs of Prague, showed that in scarlatinous nephritis the lesions begin and predominate in the Malpighian glomerules. This notion being seized upon and given extension by other pathologists, the conception became gradually formulated, and is coming to be more and more verified, that glomerulitis is the initial lesion of all the nephrites with albuminuria, whatever may be the infectious, toxic, or other cause of these nephrites. The unicist doctrine of Bright's disease is based on this notion.

In 1879, appeared the important memoir of Bamberger.[2] According to his researches, the microscope always shows an interstitial hyperplasia in connection with the parenchymatous inflammation of the tubuli. The connective tissue hyperplasia is not, it is true, generalized, as in the small red kidney, but localized in spots here and there, with thickening of the interstitial tissue and multiplication of the nuclei. Bamberger does not believe that pathological histology justifies the distinction between the large white kidney and the small red kidney. Klebs had shown that an interstitial glomerulitis, with round-cell proliferation and obliteration of the vascular tuft, is the starting-point of lesions which end finally in parenchymatous degeneration. Bamberger's histological researches and his clinical observations point to the same conclusions: the two distinct types of the disease may exist, but mixed forms are frequent in all degrees, and are often accompanied with amyloid degeneration. He has seen cases where the symptoms — insidious onset, frequent micturition, etc. — had led him to diagnosticate during life a granular kidney, and where the autopsy revealed the lesions of chronic parenchymatous nephritis. Again, he had seen other cases whose history and whose course were those of parenchymatous nephritis, yet the patient lived many years, and the autopsy showed the small contracted kidney.

From Bamberger's experience, then, it would appear that no more than histology, can clinical observation enable one absolutely to distinguish the two forms, the one from the other, and the small red kidney might well be what Bright and Frerichs thought it was — the last term of a process not differing essentially from that which leads to the formation of a tubular or parenchymatous nephritis.

Weigert's valuable memoir on Bright's disease also appeared in 1879.[3] The capital point which he endeavors to enforce is that it is impossible to maintain the histological differences which characterize the traditional scheme of the large white kidney and the small red kidney. It is a mistake to say that in the large white kidney the tubuli are alone altered, that there is no connective tissue proliferation, or that, if this exists, it is accessory and little marked. It is a mistake to assert that in interstitial nephritis, the intertubular spaces, enlarged and infiltrated with nuclei, circumscribe normal epitheliums. As well in the contracted kidney as in the white kidney, the alterations pertain both to the canaliculi and to the connective tissue. Even in the acute forms, the accumulation of round cells in the intertubular spaces, in masses more or less extensive, and the atrophy in places of the canaliculi, are the rule. The lighter the renal affection, the less marked are these interstitial lesions; the more violent the inflammation, the more extensive the connective tissue proliferation. In the chronic forms of the large white kidney, not only are masses of embryonal cells met with in the interstitial tissues, as many writers have noticed, but there is organization and thickening. Bowman's capsules are transformed into fibroid tissue, and their glomeruli have undergone different degrees of degeneration, and the arteries have suffered degenerative changes. The differences then, which the kidneys in Bright's disease present, from the large white kidney to the small red kidney, have nothing about them which is essential; it is only a question of degree. It is the acuteness, the extent, the profundity of the alterations rather than their histological characters in themselves, which create the variable aspects of the organs. The existence of amyloid degeneration changes nothing as to the nature of the process, which is that of an inflammation with tendency toward atrophy. Nor do the lesions differ more in the small white kidney and the small red kidney. If, as has been said, the granulations are larger in the former, it is because there is more normal tissue left, and the atrophy is less pronounced. The small red kidney represents only a more advanced degree of the atrophic process than the small white kidney.

If the lesions are the same, why the difference of coloration between the white and red kidneys? Weigert attributes the yellowish white color of the kidneys to fatty degeneration of the epitheliums and the more or less general anæmia of the organ. The steatosis is due either to the poison itself which has

[1] Continued from page 96 of the Journal.

[2] Volkmann's Sammlung Klin. Vorträge, 1879, p. 1533. We have in this exposition closely followed the admirable summary of Lecorché and Talamon (Traité d'Albuminurie, etc.).

[3] Weigert. Volkmann's Sammlung, 1879, Nos. 162, 163. We have followed the citations of Lecorché and Talamon.

caused the nephritis, and which acts directly on the cell, or to the insufficient afflux of oxygen or of blood necessary for the nutrition of the epithelium, by reason of the impairment of the local circulation. As for this impairment of the circulation, it depends on local and general causes. The local causes are the alterations of the walls of the blood-vessels (as in amyloid infiltration), the destruction of the glomeruli, the accumulation of cells in the intertubular tissue, lastly, the interstitial œdema, inflammatory or dropsical, which gives to the cortical substance of the large white kidney a sort of aqueous consistency.

To these local conditions, which unite to impede and slow the blood current so as to render the kidney almost exsanguinated, is added a more general cause — the lowering of the arterial tension, and the failure of the heart to undergo hypertrophy. In the chronic forms with extremely slow evolution, where the heart has time to hypertrophy, this hypertrophy compensates the effects of the local impediments which oppose the capillary circulation, and remedies the renal anæmia; whence the red coloration of the small atrophied kidney. According to Weigert, then, the small white kidney is distinguished from the small red kidney, solely by the anæmia which accompanies the interstitial inflammatory process. When the local circulatory troubles are but little pronounced, and develop slowly, it is the small red kidney which we observe.

As for the relations which exist between the epithelial lesions and the connective tissue proliferation, Weigert does not admit the notion of a primary interstitial inflammation compressing and producing atrophy of the canaliculi. The epithelium is the part first diseased; its atrophy or its destruction is the consequence of a nutrition insufficient by reason of the local impairment of the circulation, whether this impairment be due to alteration of the vessels of the glomeruli, to arterio-sclerosis, or to amyloid degeneration of the small arteries. This epithelial degeneration may exist alone for a longer or shorter time; but in virtue of this general law, which is as true for the kidneys as for all other organs, to wit: that *wherever the epithelium or the parenchyma of an organ is destroyed, connective tissue tends to take the place of the elements which have perished,* it is not long before nuclei and round connective tissue-cells make their appearance around the altered canaliculi, and the process completes itself in the progressive substitution of this tissue of new formation for the elements of the parenchyma destroyed.

To sum up, according to the unicist view: Histologically there are no essential differences between the small red kidney and the large mottled or white kidney. The partisans of dualism overlook the intermediate forms, the large red kidney and the small, white granular kidney. Weigert does not pretend that the large white kidney may be transformed into the small red kidney; he says only that between the two extreme forms there exist mixed forms presenting anatomical characters common to both types, and resembling more or less the one or the other type. The distinction between the two forms is an affair of degree and not of species, and when one attempts to trace a definite boundary line between them, this is found to be impossible.

Lecorché and Talamon believe that we must look to etiology for an explanation of the diversity of evolution of the disease and its ever-changing aspects, the agencies provocative of Bright's disease being multiple. They ask: "what rôle have these agents in the development of the renal lesions? Have they a special influence on the direction of the histological process, and do they suffice to explain the deviations?" Here the appeal is made to experimentation, which shows "that whatever may be the cause of the albuminuria, the primary and fundamental lesion is always an alteration of the glomeruli. Rapidly, moreover, and sometimes simultaneously, the other elements of the kidney undergo alteration: blood-vessels, connective tissue, and tubular cells," in short, the interstitial inflammation is always secondary to the epithelial lesions. This, at least, is the result of an investigation of all nephrites of experimental (toxic) origin; and pathological causes, it is believed, cannot act differently from agents of experimentation from the point of view of their primary action. Both classes of causes lead to one of two evolutive varieties of lesions: either the glomerulo-tubulitis is rapid, acute, more or less generalized, or it is slow, chronic, more or less limited. The type of the first variety is the glomerulo-nephritis produced by cantharides-poisoning in large doses; the type of the second is the nephritis consecutive to lead-poisoning in small long-continued doses.

The large white kidney and the small white kidney are nephrites arrested in their evolution, the one at a period quite near its onset, the other at a much later period. Neither the generalized fatty degeneration of the white kidneys, nor the amyloid infiltration of the arteries (causes of the anæmia and the pale color of these organs) are the direct consequences of the primary process of which the kidney is the seat; they are lesions superadded, and this addition is in etiological relation with the general state of the subject in whom the nephritis is developed. It has for its result — in producing a rapid and general disorganization of the renal filter, incompatible with life — an arrest of the natural evolution of the nephritis, and as it is not a consequence of this evolution but a complication, it may surprise the kidney at all periods of its atrophic inflammation. This is why we may find at the autopsy, white kidneys of all dimensions.

The more natural and uninterrupted the evolution, the more the secondary and final lesions of connective tissue sclerosis predominate.

THE DEATH PENALTY BY ELECTRICITY.

Mr. W. Bourke Cockran, counsel for William Hemmler, who some time since was condemned to death by electricity, in accordance with the provisions of the new law regulating capital punishment in New

York, has raised the objection that the law is unconstitutional, in that the constitution of the State expressly provides that no criminal shall be put to death by means that are "cruel or unusual." Judge Day, of Cayuga County, before whom the argument was made, appointed Mr. Tracy C. Becker, a Buffalo lawyer, as referee to take testimony in the case, and a large number of witnesses including Drs. Alfred L. Loomis and A. D. Rockwell, and Thomas Edison have been examined, while additional experiments have also been made at Mr. Edison's works at Menlo Park. A great deal of conflicting and not a little irrelevent testimony has been offered and received. No decision has as yet been reached in the case; but there is probably little real reason to doubt that a criminal can be deprived of life by means of electricity safely, quickly, and, if not agreeably, at least comfortably and humanely.

There seems to be an idea among the managers of electrical light and other electrical companies that it is not well to have the death penalty associated with electricity — just as some physicians object to its being associated with subcutaneous injections of morphia — and hence the tender zeal for Hemmler's legal rights.

MEDICAL NOTES.

— A "Congress of Hypnotism" is to be held in Paris, August 8th to 12th.

— Mrs. Mary E. Hanchett, who died recently at Chittenango, N. Y., is said to have been the second woman graduate of an American medical college. She received the degree of doctor of medicine from the Albany Medical College in 1848.

— The sixty-second meeting of German naturalists and physicians will be held at Heidelberg from September 17th to September 23d. One whole day will be devoted to excursions in the neighborhood, and on the evening of September 23d the Castle of Heidelberg will be brilliantly illuminated.

— A correspondent of the *Democrat* of New Orleans, writes that he has been treated for a bite of a mad dog at a Pasteur Institute in the city of Mexico. The institution in question is maintained by the Mexican government, and no charge is made for treatment.

— An attempt at blackmail was recently made against Mr. Malcolm Morris, of London, by a blackmailer named Grandy and a prostitute co-conspirator. They charged Mr. Morris with having, after immoral relations with the female prisoner, broken a promise of marriage made to her, but they were met by Mr. Morris handing them over to the police. It was then ascertained that this was not by any means the first speculation of this sort by the pair, and, notwithstanding the plea of their lawyer, that they had simply mistaken Mr. Morris for some other person, they were "sent up" for five years and eighteen months respectively.

— The *Philadelphia Inquirer* has been re-examining the character of the Schuylkill River, the source of Philadelphia's water-supply, and finds it to be very much contaminated almost all the way from the coal mines to the Fairmount Water Works. It describes it as a huge sewer draining an area inhabited by 250,000 people, before its waters are taken into pipes which supply 1,000,000 persons.

— Mr. Lawson Tait, in an article upon the "Pathological Importance of the Broad Ligament," in the current number of the *Edinburgh Medical Journal*, draws attention to a discovery which he has made which cannot fail to be read with interest in these days. In two churchyards in England; namely, at Romsey, in Hampshire, and at Bunhill Fields, in London, tombstones may be seen, each of which is inscribed with a note descriptive of a detail of treatment that had been adopted during the last illness of the person deceased. These women were presumably sufferers from cystic disease of the uterine adnexa. In the Romsey instance it is recorded that Mary Dawkins "fell asleep" in 1826, aged ninety, after having been tapped for dropsy forty-six times. In the Bunhill Fields case it is said that Dame Mary Page died in 1728, and that she was tapped sixty-six times in sixty-seven months, that two hundred and forty gallons of water were taken away, and that she never repined at her lot or ever feared the operation. Nothing could better show the difference between the treatment then and now than those mortuary clinical records.

— Tcheng-Ki-Tong, a high military mandarin, says the *London Medical Recorder*, has been edifying the world with some remarkable illustrations of the esteem in which native physicians are held in China. One of them having advertised that he had an infallible remedy for curvature of the spine, a hunchback applied to him and asked if he could straighten his back. The doctor undertook to do so, and placed the unfortunate patient on his back on a flat board. He then placed a similar board on his chest and abdomen and loaded it with heavy weights and stones. The result of this novel orthopedic surgery was that the patient was straightened out so effectually that he died on the spot. The quack claimed his fees on the ground that he had kept his promise; the bargain was that he should straighten his patient's back, but nothing had been said about his life! In China, it appears the distinction between physicians and surgeons is more sharply defined than with us, and every man is expected to stick to his own branch of the profession. A rich merchant was struck by an arrow which remained fixed in the wound. The principal surgeon of the place was sent for, and after insisting on pocketing his fee in advance cut off the projecting end of the arrow, leaving the point buried in the patient's body. On being asked to extract it, he said that medical etiquette would not allow him to trespass on a brother practitioner's province; the arrow being inside the body the case was clearly one for a physician! An old

Chinaman gave the following practical advice as to how to find the most eminent doctor in a strange place: "Count the number of ghosts crouching about the doctor's doorsteps; the one most in vogue has always the largest number."

— The Faculty of the College of Physicians and Surgeons of Baltimore held a meeting lately to fill the vacancies created by the deaths of Profs. John S. Lynch and Oscar J. Coskery and the retirement of Prof. A. B. Arnold, who has removed to San Francisco. Prof. Thos. S. Latimer was transferred to the chair of principles and practice of medicine and clinical medicine; Prof. Chas. F. Bevan to the chair of principles and practice of surgery, and clinical surgery; Prof. J. W. Chambers to the chair of operative and clinical surgery, and Prof. George H. Rohé to the chair of obstetrics and hygiene. Prof. Thos. Opie will continue as professor of diseases of women and dean of the faculty. To fill vacancies created by these transfers new professors were elected as follows: Prof. Henry Sewell, of the University of Michigan, to the professorship of physiology; Dr. George J. Preston to the professorship of anatomy, with the diseases of the nervous system as a clinical branch of instruction. Dr. N. G. Keirle was elected as lecturer on legal medicine, in addition to his demonstrations in pathology; Dr. George Thomas as lecturer on diseases of the throat and chest; Dr. G. A. Liebig, Jr., of Johns Hopkins University, lecturer on medical electricity, and Dr. J. H. Branham, demonstrator of anatomy. Drs. L. F. Ankrim, Frank C. Bressler and F. G. Moyer were appointed assistant demonstrators, and Dr. R. G. Davis, prosector of anatomy. Professor Sewell, who comes here from the University of Michigan, is an old Baltimorean, and was for several years demonstrator of biology in Johns Hopkins University. All the other appointees are residents of the city. As an evidence of esteem on the part of his colleagues, Professor Arnold was elected emeritus professor of clinical medicine on his retirement.

BOSTON AND NEW ENGLAND.

— A new cottage hospital is to be built at Quincy, Mass., similar in design to that already existing at Newton.

— The United States Hay Fever Association will hold its sixteenth Annual meeting on the 27th of August, at Bethlehem, N. H.

— Lawrence is to have a new hospital, $10,000 towards the necessary funds for the first building having been provided by Miss Helen C. Bradlee, of Boston, who had previously given $4,000 to the institution.

— "Naphtha habit" among the female employés of rubber-factories is said to be increasing. The inhalation of naphtha fumes produces a peculiarly agreeable inebriation. Naphtha is used to clean rubber, and is kept in large boilers, to the valve of which the female employés obtain access, and breathe the fumes. The habit was introduced from Germany, and is reported to be chiefly found in the New England States.

— The trustees of the Vermont State Insane Asylum for the insane have decided to build only the south wing of the new building at the present time. The wing will be 384 feet long with an extreme depth of 152 feet and will contain 33 beds in several dormitories and 42 single rooms, making accommodations for 75 patients. It is hoped that the foundation can be completed this fall. For the construction of the south wing there is available $85,000 the remaining $15,000 of the appropriation having been expended on the purchase of land. Completed, the building will probably cost not far from $250,000, with the central administration building, which will be 192 by 64 feet in size, and the north wing. It is calculated that the entire structure will accommodate 400 patients.

NEW YORK.

— Dr. Walter De Forest Day, who has ably filled the position of Sanitary Superintendent of the Health Department since 1873, has been compelled to resign on account of ill health, and Dr. W. A. Ewing has been appointed to the place. Dr. Ewing is well qualified to succeed Dr. Day, having had many years' experience in the department. From 1870 to 1873 he served on the vaccinnating corps and then was appointed assistant sanitary inspector. In 1876 he was promoted to be full sanitary inspector and he served in this capacity for ten years, when he resigned.

Miscellany.

DELIRIUM IN JAUNDICE.

In the *Illustrated Medical News*, May, 1889, page 149, Mr. Mallam records the case of a married woman aged forty-eight years, who was attacked with pain in abdomen on February 26, 1887. For two days she was kept under morphia, then bromide of potassium and chloral were given. There was much pain over the liver, which was increased in size, and there was pain over the right scapula: slight jaundice came on and the tongue became dry and red. A few days later the jaundice became more marked and she complained of severe headache: delirium also set in. There was no bile in the fæces, and the urine was the color of mahogany. The symptoms grew worse and it was evident that there was obstruction of the common gall-duct. On March 28th, Mr. Reeves was called in, but he did not think it a good case for operating, but on April 5th he was going to make an incision to explore the abdomen, when some bile was noticed in the stools and the operation was postponed. No more bile, however, was passed after this, and there was no improvement in the patient's condition. The delirium still persisted, but on the evening of April 15th she said she felt something go in her head, and her mind very soon became clear, after being more or less delirious for six weeks. On April 23d bile reappeared in the motions, and the patient made a quick recovery. This case is interesting in many ways: First, the

long period of delirium caused great anxiety; and, secondly, it shows the value of placing some faith in waiting for nature to assert herself, instead of trusting to the risk of an operation. — *London Medical Recorder.*

TENTH INTERNATIONAL MEDICAL CONGRESS AT BERLIN, 1890.

BUREAU: BERLIN NW., Karlstrasse 19.
July 8, 1889.

We, the undersigned, do hereby give notice, that, according to the resolution passed at the Washington meeting September 9, 1887, the Tenth International Medical Congress will be held in Berlin.

The Congress will be opened on the 4th and closed on the 9th day of August, 1890.

Detailed information as to the order of the proceedings will be issued after the meeting of the delegates of the German Medical Faculties and Medical Societies at Heidelberg on the 17th of September in the current year.

Meanwhile, we should feel sincerely obliged if you would kindly make this communication known among your medical circles, and add in the same time our cordial invitation to the Congress.

VON BERGMANN,
VIRCHOW,
WALDEYER.

PREVALENCE OF VENEREAL DISEASES IN THE BRITISH ARMY DURING 1888.

ON the motion of Mr. Cavendish Bentinck, M.P., says the *Lancet*, a return was prepared showing (1) the ratio of admissions into hospital and of constantly sick in hospital per 1,000 of strength of troops serving in the United Kingdom during the year 1888; (2) the ratio of admissions into hospital for primary venereal sores and gonorrhœa per 1,000 of strength of the troops at certain large stations in the United Kingdom (formerly under the provisions of the Contagious Diseases Acts) during the year 1888. From this it appears that the ratio per 1,000 of primary syphilis was 93.2, that of secondary syphilis 40.2, and of gonorrhœa 91.1 respectively, making a total ratio of 224.6 per 1,000 of admissions for venereal disease during the year. The ratios of men constantly sick from these diseases were — primary syphilis 8.20, secondary syphilis, 3.92, and gonorrhœa, 6.06 respectively, or a total of 18.19 per 1,000.

Turning to the second part of the return, we find that the ratio of primary sores and gonorrhœa in the districts formerly under the Contagious Diseases Acts varied considerably. The total ratio was 99 per 1,000 of primary venereal sores; 85 per 1,000 of gonorrhœa. The highest ratios are those of Portsmouth, where that of primary sores was 170, and of gonorrhœa 132 per 1,000. The next highest were those of Devonport and Plymouth; primary sores 134, gonorrhœa 109. At Windsor the ratios were 104 and 90. At Shorncliffe and Colchester the ratio of primary sores was the same, 97; the ratio of gonorrhœa was in the former place 56, in the latter 107. At Winchester, primary sores were in the ratio of 39, and gonorrhœa 73; at Canterbury, 87 and 79; in Cork, 68 and 98; at the Curragh, 55 and 57. At Maidstone there were no primary sores; gonorrhœa was at the ratio of 46 per 1,000.

It has been often said that statistics can be made to prove anything, but this cannot be said of such returns as these, which are simply a summary of facts which cannot be gainsaid. It is a serious reflection, remarks our contemporary, that out of every 1000 admissions into hospital last year, 225, or more than one-fourth were for venereal diseases. It is still more serious to realize the fact that since the Acts were repealed the ratios have much increased, being in fact, double and treble those of former years when the Acts were in force, and diseased prostitutes were sent to hospital till they were cured, instead of being permitted, as they now are, to spread these diseases broadcast.

MORPHINE-VASELINE AS A LOCAL APPLICATION IN CANCER.

MORPHINE combined with vaseline forms one of the best possible sedative applications in cases of external malignant disease, in which there is ulcerative breach of surface with continuous pain, says the writer of *The Asclepiad*. The mode of prescribing the preparation runs as follows: —

Vaseline, pure	ʒij
Chloroform	ʒij
Morphine gr.	iv.

Mix thoroughly, and make into an ointment.

By using the chloroform a larger quantity of morphine can be introduced than if the alkaloid were used alone, the distribution through the mass being more complete. The chloroform, in the proportions named, causes, as a rule, no irritation, but acts rather as a sedative. Chloroform also is a powerful antiseptic, and as such is a good remedy in the class of case under consideration.

Morphine-vaseline is most conveniently applied thinly spread over a piece of fine lint or soft linen. It is easily removable without injury to the surface upon which it is applied, and it may, therefore, be used even on surfaces from which the danger of hæmorrhage is foreseen. The dressing may be renewed twice in the course of twenty-four hours.

DRAINAGE IN GANGRENE OF THE LUNG.

THE *London Medical Recorder*, July 20th, quotes from the *Rivista Clinica*, of May, preceding, the report for a case by Malagola, in which a gangrenous lung was incised and drained successfully. A patient was admitted with intermittent fever, symptoms of gangrene of the lung supervening. As the patient was getting worse and no treatment was of any avail, intrapulmonary injections of various antiseptics were tried. The patient's state, however, became daily worse, and Dr. Montalti determined to introduce a drainage-tube into the lung. Dr. Malagola made the incision in the intercostal space immediately under the right nipple. The drainage-tube, two millimètres in diameter, was introduced for five centimèters, and every three hours it was washed out with a five per cent. solution of carbolic acid. As this caused violent cough and vomiting, sublimate solution (½ per 1000) was substituted. This was well borne and caused but little cough. The improvement was immediate, all the

severe respiratory and circulatory phenomena diminished rapidly, and the general health of the patient rapidly gained. The drainage-tube after the fourth day showed a tendency to be expelled; it was gradually shortened and taken out finally on the nineteenth day. The patient was admitted on June 29th, and left the hospital quite well on September 15th. There was distinct falling in of the chest-wall on the operated side between the clavicle and nipple.

THE VENOM OF SNAKES.

THE venom of the rattlesnake has been frequently made the subject of study, and, while its action as a poison has been generally conceded, some writers have endeavored to prove its efficacy as a drug. Surg. L. A. Waddell, M.B., as we learn from the *Lancet*, has recently been availing himself of his opportunities as a deputy sanitary commissioner in Bengal to determine a point around which it would seem that much uncertainty existed, — the curious question of the effect of serpent venom on the serpents themselves. In a paper he has published he quotes the contradictory conclusions arrived at by previous experimenters, and endeavors to show that, from the accounts of the experiments, it by no means followed that death, when it occurred, was the result of auto-toxic action. Accordingly, he felt that the question was still open, and proceeded to some very interesting investigations, conducted under different conditions of temperature and season, verifying his results by control experiments upon other animals and by post-mortem examination of the snakes he employed. In every case the fresh venom was injected into the cobra with an ordinary hypodermic syringe; the serpents operated upon were all healthy, and had recently been caught; the snakes were kept under observation from nine to fifteen days subsequently, and were then killed. The experiments generally confirm and extend the principle formulated by Fontana in 1765, that the venom is neither a poison to the snake itself nor to those of its own species. This immunity is not to be explained upon the mere fact of the animal being cold-blooded, or upon the anatomical conformation of ophidians, since most, if not all, of the non-venomous snakes are susceptible to venom. Surgeon Waddell suggests that it may result from a toleration established through frequent imbibition of the venom in the modified or attenuated form which it assumes when mixed with salivary and gastric juices and absorbed through the alimentary canal, and in support of this hypothesis he mentions the popular belief that certain snake-charmers, by a process of inoculation with venom, gain protection against the bite of a particular species of venomous snake. If this hypothesis can be verified by further experiments, it will go far towards affording indications for combating the action of the venom on man.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 27, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,538	904	496	38.61	11.88	30.03	1.10	3.96
Philadelphia	1,040,245	471	245	18.84	8.19	10.71	3.99	1.68
Chicago	830,000	489	294	37.20	6.80	30.60	1.20	2.40
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	191	116	39.22	8.48	35.51	.53	.53
St. Louis	450,000	—	—	—	—	—	—	—
Boston	413,567	238	114	34.06	10.92	25.20	1.68	4.20
New Orleans	250,000	169	65	17.70	6.49	7.67	—	1.77
Cincinnati	225,000	111	—	29.70	9.01	13.50	5.40	3.60
Washington	225,000	97	45	26.78	11.33	18.57	5.15	—
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	—	—	—	—	—	—	—
Charleston	60,145	59	24	18.59	16.94	15.21	—	—
Portland	40,000	20	9	35.00	20.00	35.00	—	—
Worcester	78,292	37	18	59.40	—	56.70	—	—
Lowell	71,518	42	26	45.22	4.76	38.08	—	7.14
Cambridge	65,552	32	16	40.69	12.52	28.17	3.13	6.26
Fall River	62,647	31	21	48.45	—	45.22	3.23	—
Lynn	53,334	21	—	19.04	—	—	—	9.52
Springfield	40,731	26	15	46.20	7.70	42.35	—	—
Lawrence	40,619	38	18	39.45	7.89	26.32	—	—
New Bedford	37,253	28	19	57.12	10.71	53.55	3.57	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	23	13	26.10	8.70	26.10	—	—
Brockton	28,813	8	4	25.00	25.00	25.00	—	—
Chelsea	28,167	16	8	56.03	18.75	56.05	—	—
Haverhill	26,058	11	4	45.45	—	27.29	9.09	9.09
Taunton	25,170	16	9	50.00	18.75	50.00	—	—
Gloucester	24,263	8	1	12.50	37.50	—	—	—
Newton	21,553	4	2	—	—	—	—	—
Malden	19,774	11	7	45.45	—	36.36	—	9.09
Fitchburg	17,534	4	0	—	25.00	—	—	—
Waltham	17,332	6	4	66.66	16.66	66.66	—	—
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	4	3	75.00	—	50.00	25.00	—
Quincy	13,728	6	5	33.33	16.66	33.33	—	—

Deaths reported 3031; under five years of age 1601; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas, and fevers) 1049, consumption 249, acute lung diseases 146, diarrhœal diseases 802, diphtheria and croup 86, typhoid fever 58, whooping-cough 29, malarial fever 23, measles 21, scarlet fever 15, cerebro-spinal meningitis 11, erysipelas 4. From whooping-cough New York 12, Boston 5, Philadelphia 4, Baltimore, Washington and Lynn 2 each, Chicago 1. From malarial fever, New Orleans 12, New York 4, Philadelphia 3, Baltimore and Charleston 2 each. From measles, New York 6, Chicago and Washington 6, each, Boston and New Orleans 2 each, Cambridge 1. From scarlet fever, New York 6, Philadelphia and Chicago 3 each, Baltimore, Cincinnati and Lawrence 1 each. From cerebro-spinal meningitis, New York and Chicago, 3 each, Cincinnati 2, Washington, Worcester and Springfield, 1 each. From erysipelas, Chicago 3, New York 1.

In the 28 greater towns of England and Wales with an estimated population of 9,555,406, for the week ending July 20th, the death-rate was 21.0. Deaths reported 3844: infants under one year of age 1514; acute diseases of the respiratory organs (London) 141, diarrhœa 708, measles 102, whooping-cough 86, scarlet fever 58, diphtheria 36, fever 28.

The death-rates ranged from 12.0 in Brighton to 38 1 in Portsmouth; Birmingham 24.3; Bradford 19.3; Halifax 16.7; Hull 18.6; Leeds 28.5; Leicester 26.0; Liverpool 29.2; London 18.7; Manchester 29.9; Nottingham 18.2; Sheffield 20.4; Sunderland 26.8.

In Edinburgh 15.8; Glasgow 21.9; Dublin 22.8.

The meteorological record for the week ending July 27, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending Saturday, July 27, 1889.	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.		Velocity of Wind.		State of Weather.[1]		Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...21	29.86	73.0	82.0	66.0	72	62	67.0	N.W.	N.W.	12	6	C.	C.		.0
Monday,...22	29.85	68.0	71.0	63.0	72	90	81.0	N.E.	E.	11	6	C.	F.		.0
Tuesday,..23	29.77	70.0	79.0	65.0	90	81	86.0	S.W.	S.W.	10	8	O.	C.	2.55	.20
Wednes...24	29.89	66.0	76.0	60.0	65	63	64.0	N.W.	N.	10	5	C.	C.	0.45	T.
Thursday, 25	30.06	67.0	76.0	57.0	49	67	58.0	N.W.	S.W.	9	12	C.	C.		.0
Friday,....26	30.15	66.0	71.0	60.0	63	87	75.0	N.E.	E.	6	5	C.	F.		.0
Saturday,.27	29.96	63.0	64.0	61.0	100	100	100.0	N.E.	N.	19	12	R.	R.	14.30	1.75
Mean for Week.	29.95		74.0	62.0			76.0							18.10	1.95

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 27, 1889, TO AUGUST 2, 1889.

S. O. 174, Headquarters of the Army, Adjutant General's Office, Washington, July 30, 1889. By direction of the Secretary of War, so much of Par. 1, S. O. 154, July 12, 1889, A. G. O., as directs Captain LOUIS BRECHEMIN, assistant surgeon, to return to his station at the close of the encampment of the Illinois National Guard, is amended to direct him to report in person, not later than August 20, 1889, at Fort Robinson, Nebraska, for duty at that place.

Leave of absence for ten days is granted Captain WILLIAM R. HALL, assistant surgeon. Par. 5, S. O. 80, Headquarters Department of Dakota, July 27, 1889.

The leave of absence for two weeks granted Captain SAMUEL Q. ROBINSON, assistant surgeon, U. S. A., by Par. 11, S. O. 165, from these Headquarters, is hereby extended ten days. Par. 8, S. O. 172, Headquarters Division of the Atlantic, July 30, 1889.

The extension of leave of absence granted First Lieutenant ROBERT R. BALL, assistant surgeon, in S. O. 167, July 22, 1889, from this office, is further extended ten days. Par. 23, S. O. 169, A. G. O., Washington, July 24, 1889.

By Par. 9, S. O. 176, A. G. O., August 1, 1889, the leave of absence granted in S. O. 140, A. G. O., June 18, to First Lieutenant H. S. T. Harris, is further extended two months.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING AUGUST 3, 1889.

P. H. BRYANT, assistant surgeon, ordered to temporary duty on Iron Clads, Richmond, Va.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING AUGUST 3, 1889.

HUTTON, W. H. H., surgeon. When relieved at Mobile, Ala., to assume command of the Service at Baltimore, Md. July 23, 1889.

PURVIANCE, GEORGE, surgeon. When relieved at Baltimore, Md., to assume command of the Service at Philadelphia, Pa. July 24, 1889.

GASSAWAY, J. M., surgeon. Ordered to New Orleans, La., for temporary duty. August 2, 1889.

GOLDSBOROUGH, C. B., surgeon. Granted leave of absence for thirty days. July 29, 1889.

VAUGHAN, G. T., assistant surgeon. Ordered to Norfolk, Va., revoked; to proceed to Cairo, Ill., for temporary duty. August 1, 1889.

GROENEVELT, J. F., assistant surgeon. Relieved from duty at Gulf Quarantine Station; ordered to Mobile, Ala., for temporary duty. August 3, 1889.

SOCIETY NOTICE.

FRENCH CONGRESS OF SURGERY. — The Fourth Session of the French Congress of Surgery will be held from the 14th to the 20th of October next, at Paris, in the main amphitheatre of the *Ecole de Médecine*, under the presidency of M. le Baron Larrey. Opening Session, Monday, October 14th, at two o'clock.

The following questions are submitted to the consideration of the Congress:

(1) Results, immediate and remote, of operations practised for local tuberculosis.

(2) Surgical treatment of peritonitis.

(3) Treatment of aneurism of the extremities.

DR. S. POZZI, *Secretary-General*,
10 Place Vendome.

DEATH.

Henry S. Otis, M.D., of Hartford, Conn., died August 4, 1889.

BOOKS AND PAMPHLETS RECEIVED.

Plaies et Ligature de la Veine Fémorale. Par M. Maubrac, Aide-major. Paris, 1889.

Circulation Veineuse de la Racine de la Cuisse. Par le Dr. Maubrac, Médecin Aide-major. Bordeaux, 1888.

Seventeenth Annual Announcement of the Physio-Medical College of Indianapolis, Indiana. Session of 1888-90.

Forty-Eighth Annual Announcement of the St. Louis Medical College, Collegiate Year, 1889-90, and Catalogue for 1888-89.

On the Diagnosis of Pregnancy in the Early Months. By Llewellyn Eliot, M.D., of Washington, D. C. Reprint. Chicago, 1889.

Transactions of the South Carolina Medical Association. Thirty-ninth Annual Session, Charleston, S. C., April 23 and 24, 1889.

Original Articles.

ON SURGICAL TREATMENT OF GANGRENOUS HERNIA, WITH REPORT OF FOUR CASES.[1]

BY MAURICE H. RICHARDSON, M.D.,
Surgeon to the Massachusetts General Hospital; Assistant Professor of Anatomy in the Harvard Medical School.

DURING the past few years a great deal has been said upon this subject. Hitherto, gangrene of the intestine following prolonged strangulation has been treated by leaving the process to nature, by forming an artificial anus, or by immediate resection and return of the sutured gut to the abdominal cavity. All these methods have been advocated and followed during the past ten years. The object of surgical interference in these cases is, first, to relieve obstruction by providing an outlet for the intestinal contents; and second, to restore the continuity of the bowel. The chief question to be considered, is whether we shall do the palliative operation, and make an artificial anus, or whether we shall immediately excise the gangrenous portion of the bowel. The literature of the last three years contains many valuable contributions to this subject. McCosh[2] publishes a successful case of immediate resection and gives an excellent *résumé* of the subject, with a carefully prepared table which includes all the cases published up to the present time. In this paper the opinions of prominent surgeons are quoted for and against primary excision, that of the writer being rather in favor of its immediate performance.

Klaussner, in an elaborate article, concludes:[3] "In all cases of strangulated gangrenous hernia one should form an artificial anus, if the patient is run down, so that a long operation (one to one and a half hours) would be borne with difficulty. It is also the preferable operation for the practising physician, who is often compelled to operate under the most unfavorable circumstances or even wholly without assistance. Therefore, primary resection seems suited only to those who have a certain power of resistance against a longer operation and narcotization, as in the case of gangrene quickly following acute strangulation. So that, to put the matter in a few words, the formation of an artificial anus is slower but surer as regards recovery; unfortunately, however, it soon puts a patient into a most miserable condition; while primary resection, on the other hand, an ideal operation, is a more risky performance, but in cases of success gives perfect health in a few weeks."

Graefe, Reichel, Bergmann, all favor the formation of an artificial anus, with a view to secondary resection. Rydgier, Bansu, Roggenban, Riedel, and Kocher favor primary resection.

In regard to the operation of excision of gangrenous intestine, Klaussner says that the most important thing is to make the incisions in healthy gut; so that it is better to remove a couple of centimetres of healthy gut than to run the risk of subsequent sloughing.

Haenel[4] reports five cases of gangrenous hernia in which an artificial anus was formed. Three of these died before any attempt was made to get rid of the artificial anus — one from collapse, one from inanition, and the third from general peritonitis. In attempting to get rid of the artificial anus in the other two, and in two cases sent in from outside, success followed the three cases in which Dupuytren's method was followed, but death from fæcal peritonitis occurred in the fourth case, in which resection was performed. Haenel speaks very decidedly in favor of the formation of an artificial anus in gangrenous hernia, and all the more willingly gives preference to this procedure, rather than resection, because in the latest literature (since Reichel's statistics) he found ten cases of death in sixteen cases of primary resection; and of the six cases that recovered, two had fæcal fistula for a while. As regards getting rid of artificial anus, Haenel mentions forty-three cases of secondary circular resection, sixteen fatal, twenty-five recoveries, and two with permanent fistulæ. Hence he favored the Dupuytren method of operating wherever it is possible to do so.

Coppons[5] says: "(1) Simple enterotomy followed by the formation of an artificial anus, ought to constitute the preferable operation in gangrenous hernia. (2) Intestinal resection, more perilous, ought to be reserved for absolutely special cases, and considered as an exceptional method."

Mazzoni preferred primary resection for gangrenous hernia. Out of twenty cases thus treated in Italy, twelve were successful.

Wright, G. A.,[6] says: "Perhaps the wisest course would be to merely open the bowel at the time, and should the obstruction continue and the symptoms persist, to adopt the plan of resection a day or two later, in the meantime taking measures to render the parts as aseptic as possible."

Since the appearance of McCosh's tables, Dawborn[7] publishes a successful case of immediate resection of the intestine for gangrene. He performed immediate resection for three reasons: (1) Patient in excellent condition; (2) part of gut involved undoubtedly part of the jejunum, and hence nutrition with an artificial anus would not be well maintained; (3) the patient's bowel above the strangulation could not contain much fæces, as a thorough movement had occurred a little more than a day previously. Consequently, great pressure from retained gut contents would not be brought to bear against any intestinal sutures. 12⅞ inches removed. Czerny and Lembert sutures. Whole operation two and three-quarter hours. Actual suturing of gut, nearly one and a half hours. Thinks that Abbe's catgut rings (an improvement on Senn's plates) will shorten the time very much.

Gerster[8] had four cases of gangrenous hernia; all died. He says: "All the patients upon whom necrosed gut was found died either of collapse, shortly after completion of the operation, or of peritonitis due to infection extending from the place of strangulation. On one of them resection of the necrosed part of the gut was practised, with subsequent suture. The patient died of peritonitis. Immediate resection of the gut has little to commend it. The dangers of the infection of the peritoneum are almost insurmountable, the comprehensive preparations required for enterorrhaphy are usually not made, and, the work being extemporized, generally

[1] Read before the American Surgical Association, May 15, 1889.
[2] New York Medical Journal, March 16, 1889, p. 281.
[3] Ferdinand Klaussner Muechner med. Wochenschrift, January 29, 1889, and February 5, 1889. Ueber die Behandlung Gangränöser Hernien.
[4] "Zur Kasuistik der gangränösen Hernien und der Anus præternaturalis," Archiv f. klin. Chirurgie, Bd. xxxvi, s. 393-420.
[5] Bull Méd. Par., 1888, II, 1659-1662.
[6] Lancet, March 30, 1889, p. 617.
[7] Medical Record, April 20, 1889, pp. 428-430.
[8] Aseptic and Antiseptic Surgery, p. 122.

lacks exactitude. In addition to this, the general condition of the patient is commonly so bad, that undue prolongation of anæsthesia would be very dangerous. Therefore, in these cases, the establishment of an artificial anus is the only thing to do."

Charles K. Briddon[9] reports a case of strangulated femoral hernia with gangrene of the intestine. He performed the operation of resection and suture. Operation lasted one and a half hours. Patient failed gradually and died the next day. The post-mortem showed no signs of peritonitis, and there was quite firm union of intestine at the point of suturing.

Walter Pye[10] referred to a case of gangrenous intestine in which he had established an artificial anus. During exertion the open bowel slipped into the abdomen and caused the death of the patient from peritonitis.

Stewart (quoted in *Lancet*) says that in twenty herniotomies he has seen, gangrenous gut had been found in two instances, and in both the bowel was opened and left *in situ*, both patients dying early from septicæmia. It was this adverse experience which led him to prefer excision of the intestine when the next case presented itself to him, which was done with success.

Fleming, J. C.[11] Male, aged forty-eight. Inguinal herniotomy performed; bowel gangrenous; laid open and slightly stitched to the external wound. Did well after the operation. A month later noted that he was distinctly emaciating and in low spirits, and also suffering extremely from the irritation of the fæces continually pouring out of the artificial anus, this irritation even preventing him from sleeping. Operation. An incision was made through the skin round the projecting end of the bowel, and about a quarter of an inch from it, and was prolonged upward. By putting the bowel on the stretch by means of ligature already applied, it was easily dissected free, and a portion pulled down with the mesentery. By following this the lower end of the bowel was found; triangle of mesentery removed three inches each way. Freshly cut edges of the gut brought together. Lembert sutures. Good recovery.

Bank, W. M.[12] Six cases of gangrenous gut; laid gut open, but did not interfere with stricture or anything else; three died and three recovered. Is strongly of the opinion that the stricture should be left alone.

Weill.[13] Artificial anus formed; 70 cm. intestine excised. Eleven weeks later operations for artificial anus; recovery. 12 and 15 cm. excised from ends of intestine; nearly one metre excised in all. Umbilical. In his own experience had, from 1873–79, fifteen cases of gangrenous hernia; thirteen died and two were left with fæcal fistulæ: a mortality of eighty-seven per cent.

In 1884, Reichel[14] collected all the published cases of circular resection of the intestine; fifty-six for gangrenous hernia; twenty-four recoveries, twenty-nine deaths; three fæcal fistulæ: a mortality of fifty-two per cent.

In a personal communication, Dr. E. H. Bradford, of Boston, Surgeon to the Boston City and Children's Hospital, expressed himself as favoring resection in gangrenous hernia, where the condition of the patient is good enough to justify the additional risk. With his permission I have availed myself of the following cases:

The first case was that of an old woman with a strangulated hernia of ten days' standing. She was in bad condition. The gangrenous gut was excised and the bowel sewed partly with the Lembert and partly with a continuous stitch. She died of shock the next day. No autopsy was allowed.

The second case was also hernia with gangrene. Excision and suture was performed. The patient died at the end of a week, because too much of the intestinal wall was turned in, leaving a lumen not larger than a pencil. Dr. Bradford feels confident that she would have got well if this had not been done.

A third case of gangrenous hernia was treated by the formation of artificial anus. The patient recovered well from the operation, but died later from inanition. The part opened proved to be the jejunum.

My experience in gangrenous hernia is derived from the following cases:

CASE I. A young woman with right femoral hernia of a week's standing. There was a large swelling in the upper part of the right thigh, extending downward and inward. Constitutional symptoms severe. A large incision was made down into the sac, which contained fæcal matter and pieces of gangrenous bowel that had become almost entirely disorganized. The ring was divided sufficiently to allow fæcal matter to escape, so that an artificial anus was established. She died of shock in twenty-four hours.

In this case it is quite evident that nothing could have been done beyond opening freely the bowel and trusting to the formation of an artificial anus. The condition of the patient was so poor that nothing beyond the most speedy operation could be thought of.

CASE II. Susan H. T., age sixty-five, married. Entered Massachusetts General Hospital, September 13, 1886. Five years ago operated upon for radical cure of hernia by injection. Had complete relief until yesterday, when she was taken with violent vomiting and pain. The old hernia was enlarged, and very tense, about the size of a goose-egg. Operation by Dr. Richardson. Incision through skin and sac of hernia, disclosing a loop of intestine very dark in color. The ring was divided and the hernia reduced. Pillars of ring sewed together and wound closed; drainage from the bottom.

September 14th. Very uncomfortable; vomiting.

September 16th. Still vomiting. Abdomen much distended. Enema. Small dejection and much wind. No relief of distention.

September 17th. Delirious; becoming weaker. Second operation.

Original incision extended and peritoneum opened. The loop of intestine in hernial sac found constricted, although above the ring. It was dark and gangrenous, and gas could be squeezed from it through numerous small perforations. The constricting band was cut and the coil of intestine withdrawn. The perforated and gangrenous portion of intestine and the mesentery connected with it was carefully excised, the incision being made well within the healthy gut. The two free ends of intestine were sewed with fine silk, by the interrupted Lembert method. The mesentery was sewed with a continuous suture. She died at 11.45 P. M. that evening, September 17th. Wound opened and,

[9] New York Medical Journal, March 9, 1889, p. 255-257.
[10] Lancet, 1885, vol. i. p. 750.
[11] Lancet, 1887, p. 521.
[12] Medical Times and Gazette, London, 1885, vol. i, p. 567.
[13] Prager med. Wochenschr., 16 Marz, 1887, 81, 89, 98.
[14] Deutsch. Zeitschrift für Chir., Bd. xix.

specimen removed. The gut was already well glued up. Death from shock. No general peritonitis.

Case III. Dr. Broderick, of Charlestown, in whose practice this case occurred, has sent the following history: Catherine Corcoran, aged forty-two. Has had several children. Noticed a swelling in umbilical region a number of years ago, which gradually increased in size. At times she would have severe pain in that region which the attending physician called wind colic. I saw her for the first time on the night of October 19, 1888. She had been in bed two days, with pain in umbilical region, vomiting, thirst, and constipation. Temperature 98.6°; pulse 80. At the umbilicus was a hard tumor, the size of fist, slightly tender on pressure, and dull on percussion, and very red in color. I saw her again October 20th, at night. Temperature 99°; pulse 84; constant vomiting, and no movement from bowels for four days. Swelling at umbilicus more tender, somewhat softer and dusky red in color. I saw her a third time, October 21st, morning. Continual vomiting; pain at umbilicus severe and constant; bowels not moved. Umbilical swelling has a softer feeling and a sense of fluctuation. Temperature 99°; pulse 86. I saw her again Monday, October 22d, morning. Temperature 99.8°; pulse 88. Constant vomiting if anything enters the stomach. Bowels have not discharged anything for six days. Constant pain in umbilicus; fluctuation in swelling. When I first saw the patient my diagnosis was probable strangulated hernia, and I advised her to enter the hospital, but she refused. Treatment, morphine subcutaneously. Ice to suck. Milk and water to drink. Poultice to tumor. The first day ordered enema, but no fæcal discharge, and on third visit ordered another, with same result. I did not desire to try taxis.

Hospital Records.— "Catharine Corcoran, age forty-two. Monday, October 22, 1888. General health fairly good. For six years has had a rupture at naval, and has been troubled with it for the past four months more than usual. Bunch at umbilicus from time to time grows larger and painful, and she vomits. By lying down and taking hot drinks she recovers. After this present attack, no relief followed her usual treatment. Friday morning, October 19th, she was seized with a severe pain in umbilical region and began to vomit. Vomiting continued incessantly up to time of admission to hospital, the following Monday — three days. No sleep; no passage of flatus or fæces; abdomen very painful, tender and distended; tumor as large as two fists at umbilicus; skin over it tense, red, and in places darkly discolored, hot and œdematous; expression anxious; respiration rapid and shallow; pulse, small, thick and thready, almost imperceptible; temperature 100.5°."

Operation, 5 P. M., by electric light; under ether. Incision five inches in length, made over tumor in the median line. On opening sac small intestine found to be gangrenous. Color dark green; odor putrid and fæcal; surface shreddy. The whole sac and its contents were first thoroughly irrigated with warm solution of corrosive sublimate, 1: 5000. The ring was so tight that it was impossible to get anything through it, and the occlusion was complete. The opening was freely incised and healthy bowel drawn out. Up to this time the woman's condition had constantly improved under the anæsthetic. I believed it to be quite as easy to resect this gut and sew the ends as to make an artificial anus, and the danger of infecting the peritoneal cavity equal in both operations. I decided to perform enterorrhaphy. The living bowel was divided with scissors well beyond the line of demarcation, and the healthy ends held by the fingers of an assistant. The healthy mesenteric border was ligated with silk and left. The joint was made by a single row of Lembert sutures, and twenty-minutes were taken to apply them. Fine silk was used, threaded in round needles. The mesenteric border remained as a small puckered bunch under the line of suture. The whole joint was very satisfactory.

During the operation the parts were repeatedly irrigated with corrosive solution, and great care was taken to keep the contents of the sac out of the abdominal cavity. The bowel was then replaced, and the ring sewed up with interrupted silk sutures. Sac drained. The condition of the patient was good during the entire operation. The vomiting ceased immediately and never returned. There was a large dejection on the third day; marked diminution of distension; temperature normal. The sac discharged freely for some time. For the first few days it was distinctly fæcal in odor. Her temperature never reached 101°, except the evening after the operation, when it was 101.8° Discharged well, December 17th. In perfect health ever since.

Case IV. Dr. Colony, of Fitchburg, sends the following history of this case:

"I was first called to see the patient, Mrs. Jos. A, H., on March 11th. She is a strong, muscular woman, weighing more than two hundred pounds, and accustomed to do the hardest kind of work, and with the exception of the disease to be described, always in robust health. For the past fifteen or twenty years, an umbilical hernia has been developing, which has at last attained an enormous size, of irregular shape, and at times nearly twelve inches in diameter, heretofore partially reducible. Previously to the present attack, the patient had from time to time suffered from what she described as severe colic pains, but usually passing off without medical assistance. Had been sick several days when, Monday, March 11, 1889, upon my first visit, she was suffering from severe abdominal pains, radiating from the lower portion of the sac, which was tender, red and inflamed. Nausea and vomiting occurred, and there was obstruction of the bowels. Pulse 90; temperature 100°. On Tuesday and Wednesday the local inflammatory symptoms increased, involving an area of nearly five inches in diameter. The general symptoms were not much changed. There was a rise in temperature, 102°, and pulse 95. On Thursday, 14th, the integuments covering a large portion of the sac had become dark colored and presented a gangrenous appearance. On Friday there was an escape of fluid and sloughing. A very offensive discharge occurred, which increased for several days. On Tuesday, March 19th, in consultation with Drs. Thompson and Spring, an investigation was made without ether, and the two ends of the bowel, of what portion we were not sure, were easily located in the sloughing mass. At this date the whole sac presented a dark appearance, and no line of demarcation could be made out.

"Toward the end of the second week the local inflammatory symptoms began to improve, and a not very thick slough of the integuments began to take place. This favorable change has continued to the present time, until the integumentary portion of the

sac has gradually closed up around the ends of the bowel. A small portion of the bowel has sloughed off. The ends of the bowel each discharged partially digested fæcal matter. The general health of the patient has improved since the end of the second week, until at the present time she is able to take all the nourishment she requires, and as much as her attendants. She is also able to be about her room."

I saw this case on Friday, May 2d, with Dr. Colony. The patient looked in very robust health, and was evidently in first-class condition. There was a large irreducible umbilical hernia, covered with thin skin, through which the peristaltic movements of the small intestines could easily be seen. At the lower border of the hernia there were two conical projecting masses at the apex of which crater-like openings discharged gas and fæcal matter. Though small and constricted these openings gave free exit to the intestinal contents. The skin of the abdomen was intensely inflamed. The lower margin of the tumor ended in a deep sulcus, lined with granulations which was very difficult to keep clean. It was hard to say just what part of the small intestine had sloughed, but it was quite evident that it was removed from the stomach, not only from the character of the fæcal matter discharged but also from the rapid improvement in nutrition and general condition. The constant attendance of two sisters was necessary, and she was unable, of course, to be of any service in the care of her house, husband, and seven boys. Her life at present is not worth living.

I report this case not only because it shows the terrible condition to be expected in favorable cases of artificial anus, but it adds one more case to the list of recoveries following the establishment of artificial anus, by nature or otherwise. She has now to run the risk of a secondary operation.

(To be continued.)

THE CHEMISTRY OF ARSENIC.[1]

BY WILLIAM B. HILLS, M.D.,
Assistant Professor of Chemistry in Harvard Medical School.

ARSENIC, although one of the rarer elements, is in small quantities very widely distributed. It is found native but more commonly in combination with certain metals, notably iron, cobalt and nickel, and with sulphur. The most important arsenical ores are arsenical iron, Fe As_2; arsenical pyrites or mispickel, Fe_2 As_2 S_2; realgar, As_2 S_2; orpiment, As_2 S_3; arsenical nickel, Ni_2 As_2, and tin-white cobalt, which is composed essentially of arsenic and cobalt. Less frequently arsenious oxide and salts of arsenic acid are met with. The most abundant of these ores is mispickel, and it is from this chiefly that arsenic and its compounds are prepared on the large scale as a principal product. Large quantities are, however, obtained as a secondary product in the working of the ores of tin, copper, cobalt and nickel. The ores of arsenic are found in various parts of the world, but are especially abundant in certain European localities, as Styria, Silesia, the Hartz mountains, and in Cornwall and Devonshire in England.

Arsenic in small quantities occurs in many minerals other than those above mentioned. It is found, for example, in most specimens of iron pyrites; consequently it is a common impurity in sulphuric acid and in numerous chemical and pharmaceutical products in the preparation of which this acid is employed. The ores of bismuth frequently contain arsenic; as a result, the pharmaceutical preparations of bismuth are likely to be arsenical, unless the metal from which they are prepared is first purified, or exceptional care taken to eliminate arsenic in their preparation. The ores of zinc are usually arsenical; consequently metallic zinc, which is employed in the most important test for arsenic may contain more or less arsenic as an impurity.

The wide distribution of arsenic is of great importance in its relations to medico-legal investigations involving a question of arsenical poisoning.

(1) Since certain reagents employed in analytical work are liable to contamination with arsenic, it is the duty of the chemist, who is called upon to make an examination of the organs of the body, or of other material in a case of suspected arsenical poisoning, to ascertain that all the reagents and apparatus used in his investigations are entirely free from arsenic. For this purpose, a blank experiment, using the same reagents in essentially the same amounts, and the same apparatus, must be carried on side by side with the examination of the organs or substances under investigation. Among the reagents employed in an analysis for arsenic, sulphuric and hydrochloric acids and metallic zinc are especially liable to contain arsenic as an impurity; while sodium carbonate and potassium chlorate have occasionally been found arsenical. Glass and the glaze of porcelain may also contain arsenic, which may be communicated to certain reagents, especially the fixed alkaline hydrates. While there is no difficulty at the present time in obtaining reagents free from arsenic, yet the chemist should personally test the purity of these; and a failure to do so is properly sufficient ground for the rejection of the chemical evidence.

(2) Owing to the occasional presence of arsenic in pharmaceutical preparations, it is important, in medico-legal investigations involving the question of arsenical poisoning, that such medicines as have been administered just prior to and during the sickness of the individual supposed to have been poisoned, be submitted to the chemist for analysis, that he may be able to say, if possible, that the arsenic found in the organs or excreta could not have had its origin in such medicines. This procedure is especially necessary in cases in which subnitrate of bismuth has been administered. This preparation formerly contained, as a rule, more or less arsenic; sometimes a considerable quantity. Consequently the arsenical impurity in bismuth is invariably urged by the defence, provided bismuth has been administered, in explanation of the arsenic found. As now prepared it rarely contains more than the faintest trace of arsenic. Yet a failure to submit for analysis any sample actually administered might aid in defeating the ends of justice. Solution of ferric chloride may also be mentioned as a medicinal preparation in which an appreciable amount of arsenic may be found.

(3) On account of the wide distribution of arsenic in small quantities, traces of arsenic are occasionally found in the body in cases in which death has not been the result of poisoning. Such traces may have their origin in drugs administered during life (either arsenical preparations as Fowler's Solution, or medicines containing arsenic as an impurity), or more frequently

[1] Read before the Massachusetts Medico-Legal Society, October 3, 1888.

perhaps in the dust given off from arsenical papers or fabrics. The possibility of the latter origin of arsenic found in the organs is usually urged by the defence, even in cases in which the amount of arsenic recovered from the organs is large. In the majority of cases the quantity of arsenic found, if any, is sufficiently large to justify the opinion that it could not have had its origin in the manner suggested: and a similar opinion is warranted in case arsenic or any of its compounds is found in the stomach or intestines in the solid state. But the detection of mere traces of absorbed arsenic is by no means necessarily indicative of arsenical poison. In the case of Madame Laffarge, Orfila obtained from the body a quantity of arsenic estimated to be about the one hundred and thirtieth part of a grain. The woman was convicted. No importance whatever would be attached at the present day to the detection of this amount of arsenic in the body.

COMPOUNDS OF MEDICO-LEGAL IMPORTANCE.

In addition to metallic arsenic, the following compounds of arsenic possess more or less medico-legal importance: Arsenious oxide, called also arsenious anhydride, arsenious acid, white arsenic and arsenic: the arsenites of sodium and potassium; the aceto-arsenite of copper (Paris green, Schweinfurth green); the arseniates of sodium and potassium; arseniuretted hydrogen; the yellow sulphide of arsenic or orpiment, and the red sulphide or realgar.[2]

Metallic Arsenic.—The metallic arsenic occurring in commerce is either native arsenic or more commonly the artificial product obtained by heating arsenical iron or arsenical pyrites in a closed vessel. It is also prepared by subliming a mixture of arsenious oxide and charcoal, and may be obtained from the sulphides by heating these with a mixture of charcoal and an alkaline carbonate or potassium cyanide. It is a very brittle crystalline substance, of a steel-grey color, specific gravity about 5.75. It has a bright metallic lustre, and conducts electricity readily. Hence, although in all its chemical relations a non-metallic element, it is usually called *metallic* arsenic, to distinguish it from *white* arsenic to which the term "arsenic" is popularly applied. It undergoes no marked change in dry air at the ordinary temperature, but in moist air, especially if in the finely divided state, it absorbs oxygen with considerable rapidity and is converted to arsenious oxide; and it is probable that it is poisonous only in so far as it becomes oxidized either by exposure to the air or by contact with the fluids of the stomach and intestines. One of the substances known as fly-paper is such a mixture of arsenic and arsenious oxide, containing, it is said, from four to eleven per cent. of the latter substance. Metallic arsenic is readily volatilized, and the vapor in contact with air emits a peculiar garlic-like odor. Heated in air it takes fire and burns with a livid blue flame and evolution of dense white vapors of arsenious oxide. Its combustion is attended with the peculiar odor referred to. If pure it is insoluble in water; but when the oxidized product is boiled with water, arsenious oxide is dissolved, and may be detected by appropriate tests applied to the solution. The best solvent is concentrated nitric acid, which oxidizes it to arsenic acid. Metallic arsenic is used chiefly for the purpose of hardening lead in the manufacture of shot.

Analysis.[3] Heated in a narrow reduction tube metallic arsenic is converted to a vapor, which recondenses as a sublimate in the upper and cool part of the tube. The lower part of this sublimate presents an iron-grey appearance, and the upper part a dark-brown color, gradually fading to a grey ring in which octahedral crystals of arsenious oxide may usually be detected. Very thin sublimates have a light-brown color. An arsenical sublimate is distinguished from sublimates produced by other volatile metals as follows: (1) It is soluble in sodium hypochlorite (Labarraque's Solution). (2) If the lower part of the tube is cut off, and the sublimate heated while the tube is held in an inclined position, the arsenic is volatilized, and oxidized to arsenious oxide, which condenses in the form of octahedral crystals in the upper and cool part of the tube. This oxidation of arsenic is attended with the characteristic garlicky odor.

If arsenic is dissolved, by the aid of heat, in strong nitric acid, and the solution evaporated to dryness, a white residue of arsenic acid is obtained. This is soluble in water, and the solution thus obtained responds to the tests for arsenic acid; or the solution may be saturated with sulphur dioxide, the excess of this gas removed by heat, and the solution then tested for arsenious acid.

Arsenious Oxide.—This is called also arsenious anhydride, arsenious acid, and popularly white arsenic, flour of arsenic, arsenic and ratsbane. It is the substance usually meant when arsenic is spoken of. Medico-legally the most important of the compounds of arsenic. It is occasionally found native, and is formed artificially whenever metallic arsenic is volatilized in contact with the air. The ore from which it is obtained as the principal product is usually arsenical pyrites. It is also obtained as a bye-product in the roasting of arsenical ores of copper, tin, cobalt and nickel. The ores are roasted in furnaces, and the vapors of white arsenic conducted into large chambers in which they are condensed. The crude product is refined by subsequent resublimations. It is manufactured chiefly in the mining districts of Germany, and in Cornwall and Devonshire in England.

Arsenious oxide is a white solid, occurring in two crystalline forms and in the amorphous state. The amorphous, known also as vitreous or glassy arsenic, is formed when the vapor condenses on a surface whose temperature is but little below the volatilizing point of the oxide, so that before solidifying it passes through the semi-fluid state. It is colorless and transparent when first prepared, but gradually changes into an opaque porcelain-like mass. This change has been attributed to the passage from the amorphous to the crystalline state.

The *octahedral* variety is produced by sublimation when the vapor is cooled rapidly, so that it solidifies at once without passing through the semi-fluid state; also when hot saturated solutions are allowed to cool.

Right rhombic prisms, isomorphous with native oxide of antimony, are occasionally obtained by sublimation; also when a boiling saturated solution of the

[2] Poisoning, resulting from the domestic use of arsenic, for example from paper-hangings, glazed paper, fabrics, etc., has been recently treated in a thorough manner by Edward S. Wood, M.D., in the Report of the Massachusetts State Board of Health, Lunacy and Charity. The consideration of this subject is therefore omitted in this paper.

[3] Only such tests are described in this paper as may readily be applied by the physician to solids suspected to be arsenic or one of its compounds. Works on toxicology may be consulted for a description of wet tests for arsenic, and for information regarding the systematic examination of organic liquids or solids for arsenic.

oxide in potassium hydrate is allowed to cool (Pasteur).

As met with in commerce, powdered arsenic examined microscopically is sometimes found to consist wholly of amorphous fragments of varying size, being prepared by grinding the large masses. At other times it consists chiefly of octahedral crystals varying in size from $\frac{1}{250}$ to $\frac{1}{5000}$ of an inch in diameter, usually containing at the same time more or less fine dust and fragments produced by the breaking up of the crystals in the grinding process to which the crystalline arsenic is subjected before it is put on the market. Hence the microscopical character of the powder *may* enable one to say with tolerable certainty that a certain sample was not derived from a certain source. The factors which we may avail ourselves of in such a comparison of samples, are the crystalline or non-crystalline character of the powder, the prevailing size of the crystals or fragments, the proportion of crystals to amorphous matter, to some extent perhaps the lustre and markings of the crystals, and the presence or absence of foreign matters (the presence of charcoal, for instance, suggesting "Rough on Rats"). Microscopical examination does not, however, enable one to say that a given sample was derived from a given source; though we may say that one sample resembles another, and *may* have been originally a part of it. It should be borne in mind in comparing different samples that the characters of the substance may be materially modified by immersion in a liquid, as the contents of the stomach and articles of food and drink (smaller fragments dissolved, crystals rounded off, etc.).

White arsenic is practically destitute of taste, though at times a sweet, rough, astringent or metallic taste has been described. Its specific gravity is about 3.7, that of the vitreous variety apparently a little higher than that of the octahedral. It volatilizes at about 200° C. The vapor is colorless and odorless and condenses again on a cool surface in the form of octahedral crystals. The solubility of white arsenic in water varies with the conditions. It is, other things being equal, more soluble in hot water than in cold. The solubility, according to Wormley, depends chiefly upon the following circumstances: (1) The physical state of the oxide; (2) the relative proportions of the oxide and water present; (3) the time they have been in contact; (4) the temperature of the mixture; (5) if the mixture has been boiled, the length of time the boiling was continued; (6) the time that has elapsed since the mixture was heated. Wormley's experiments show that one part of the oxide may be dissolved in from 6.72 to 810 parts of water. The vitreous is usually considered to be more soluble than the crystalline variety; but Wormley finds that while under one set of conditions this may be true, under another the reverse may be true. Most experiments show that the solubility is more or less diminished by the presence of organic matter; but probably all liquids which are used as foods or beverages, such as milk, tea, coffee, wines and other alcoholic liquors, may hold in solution, in the quantity in which they would ordinarily be taken into the stomach, a poisonous dose of arsenic. Very large quantities may be held in suspension in thick or mucilaginous liquids, and thus taken into the system unperceived.

White arsenic, although quite heavy, has the peculiar property of floating on water in part, whether the arsenic is added to the water or the reverse. The floating particles frequently unite to form spheres enclosing a bubble of air and persistently refuse to mix with the water. Frequently the portion which sinks presents the same spherical appearance which may persist for a long time, and which is so characteristic as to attract attention. Arsenic will thus float on water for months even if the liquid is occasionally agitated.

White arsenic is more soluble in water acidulated with hydrochloric acid than in water alone. It is very soluble in the fixed alkaline hydrates, less soluble in ammonium hydrate. By nitric acid it is dissolved and oxidized to arsenic acid. White arsenic is used largely for the preparation of other compounds of arsenic, as a mordant, as an antiseptic, to some extent in medicine, for the extermination of vermin, and for other minor purposes. Among vermin exterminators, "Rough on Rats" is a mixture of white arsenic and charcoal; the "Buffalo Carpet Bug Annihilator" contains white arsenic as its poisonous ingredient. Some fly-waters are solutions of this substance or alkaline arsenites in water sweetened with sugar.

Analysis.—The recognition of solid arsenious oxide presents no difficulties. Its crystalline form (octahedra or modifications of octahedra) is very characteristic. Heated on charcoal in the reducing blowpipe flame it is volatilized in the form of white vapors, with the emission of a garlic-like odor. In this experiment, the oxide is first reduced by the carbon to metallic arsenic, which is in turn reoxidized in the air to arsenious oxide. Heated in a reduction tube it volatilizes without fusing, and recondenses in the cool part of the tube in the form of octahedral crystals, or crystals which are modifications of octahedra. Other white powders furnish crystalline sublimates, but most of these melt before volatilizing, and none of them condense in octahedral crystals. The reduction test for arsenic is one of the most valuable tests and is thus performed. Place a bit of arsenious oxide in the closed end of a narrow reduction tube, and a little distance above this place a piece of recently ignited charcoal. First heat the charcoal to redness, and then the oxide, keeping the charcoal at the same time hot. The oxide is volatilized and in passing over the hot charcoal loses its oxygen and is deposited in the cool part of the tube above as a sublimate of metallic arsenic, the characters of which have been described. This reduction may also be effected by a dry mixture of sodium carbonate and potassium cyanide, or by potassium ferrocyanide which has been previously dried at 100° C.

Pure aqueous solutions of arsenious oxide have a feebly acid reaction. If a drop of such a solution is allowed to evaporate spontaneously on a glass slide, the oxide is left in the form of octahedral crystals. The residue thus obtained by evaporation may be tested as above described. The most important tests for arsenious acid in solution are the following: (1) the ammonio-silver nitrate test; (2) the ammonio-copper sulphate test; (3) the sulphuretted hydrogen test; (4) Reinsch's test; (5) Marsh's test. Most of these tests require a skill in manipulation possessed only by the trained chemist, and all of them are subject to certain fallacies which can be avoided only by a thorough knowledge of the chemical properties not only of the compounds of arsenic, but of those of certain other elements. A satisfactory description of them cannot therefore be given in this paper. Of the tests

mentioned, Marsh's test is the most important as well as the most delicate; while Reinsch's test is the only one applicable in the presence of organic matter. In the performance of the latter test it is important to remember that both metallic copper and hydrochloric acid frequently contain traces of arsenic. The purity of these reagents should therefore be first determined.

Arsenites. — These are compounds of arsenious acid with metals. The alkaline arsenites are at times sources of poisoning. Potassium arsenite which is used in medicine under the name of "Fowler's Solution" is the most important of these. Both potassium and sodium arsenites are used considerably in solution and in the form of a soap by taxidermists. They are white, non-volatile, very soluble compounds, and respond to all the reactions for arsenious acid, with the exception of the sublimation test, and to those for the constituent metals. Fowler's Solution is further characterized by its odor and color.

Aceto-arsenite of copper (Paris green or Schweinfurth green), is used largely as a pigment, and for the purpose of killing the potato-bug. Owing to the ease with which it can be obtained, it has given rise to numerous cases of accidental and suicidal poisoning. It is characterized by a vivid-green color when pure, a paler green when adulterated, as is frequently the case, with chalk or gypsum. Heated in a closed tube it furnishes a sublimate composed of octahedral crystals of arsenious oxide, while a black residue (cupric oxide) remains behind. It is insoluble in water, but wholly soluble, if pure, in ammonium hydrate with formation of a deep blue solution. If this solution is allowed to stand till the excess of ammonia has escaped, and a drop or two of a solution of silver nitrate is then added, a yellow precipitate of silver arsenite is obtained. On systematic analysis it affords the reactions for copper and arsenic.

(To be continued.)

REPORT ON FOODS, DRUGS AND THEIR ADULTERATIONS.

BY BENNETT F. DAVENPORT, M.D.

SOJA.

M. LECERF[1] calls attention to the nutritive value of soja hispida seeds as exceeding lean beef. As a flour it is rich in albuminoids, while containing only about three and one-quarter per cent. of starchy and sugary matter. It could well, therefore, be used in bread for diabetics. This has been found to remain fresh for five days. M. Petit has shown that the seeds contain a purgative which should be removed before grinding. According to M. R. Blondel, it does not at all contain any true starch.

COAL-TAR COLORS IN FOODS.

Dr. Weyl[2] has made important investigations as to the relation between chemical constitution and physiological actions, which are of great interest in relation to the use of coal-tar colors in food. Of the "nitroso" colors he finds "naphthol-green, B" to be harmless to dogs in fifteen to thirty grain doses daily for a fortnight. Of the "nitro" colors he finds "dinitrocresol or artificial saffron" to be likewise harmless; while Martin's yellow, which is well tolerated by rabbits, will, in small doses, kill medium-sized dogs. A sulpho acid, however, of the Martin's yellow, known as "naphthol yellow, S," is harmless in four times as large doses. The "nitro" compound, picric acid, has long been known to be poisonous. Of amantias there are two commercial brands. That from the Berlin aniline factory appears not to be poisonous to rabbits, while that from Basle has proved very injurious to men. Dr. Weyl has not yet found any of the "azo" coloring compounds to be poisonous, while three "saffranin" preparations were all so.

Cazeneuve[3] reports that he finds the following coal-tar colors not injurious to health: roccellin or soluble red, the sodium salt of the sulphonic acid of rosaniline; a purple-red diazo-compound (Bordeaux red, B); Ponceau, R; orange, I; yellow, N. S.; ordinary induline; Coupier's blue; acid green; and a soluble yellow sodium salt, the full technical name for which, as well as for the other ten colors mentioned, necessary for their perfect identification, must be sought in the original article. He finds the sodium salts of sulphonic acids are not poisonous, as a rule; while the nitro compounds are. Methylene blue he finds is injurious.

BENZOIC ACID AS A FOOD PRESERVATIVE.

The consultative committee of public hygiene in France, have reported, through M. Pouchet,[4] that benzoic acid should not be allowed to be used as a preservative in foods. The reason was that, as an antiseptic, it would interfere with normal digestion. The use of any antiseptic or antifermentative is irrational, from the point of view of nutrition.

COCOANUT AS A VERMIFUGE.[5]

The cocoanut has been used as a vermifuge for centuries in India, being considered equally efficient for expelling the flat worm as male-fern oil, kouso, pomegranate root or turpentine; being, moreover, as pleasant to the taste as they are offensive.

KERATINIZED PILLS.

The residue left after testing such tissues as horn or feather quills successively with ether, alcohol, water, and diluted acids, is known as keratin. This substance, which is insoluble in the gastric juice, is dissolved by the alkaline bile in the small intestines. It has therefore been recommended by Unna and Beierdorf[6] as a coating for pills, which it is desirable for any reason should not act until they have passed the stomach, an object sometimes of great importance.

THIOCAMP.

a compound of sulphur dioxide with camphor, is commended by Dr. J. E. Reynolds, of Dublin, as a disinfectant, it being a convenient form of liquified sulphurous-acid gas obtainable without the use of pressure. The fluid can be stored at ordinary temperature in bottles without pressure; yet, when exposed in a thin layer to the air, it gradually liberates 308 times its own volume of the acid gas. This compound has long been known as a chemical, having been described years ago by H. Schulze.[7]

MORPHINE VASELINE.

Dr. Richardson,[8] in a late number of his journal, recommends a mixture of four grains morphine to the

[1] Jour. de Pharm. et de Chemie., xviii, p. 537.
[2] Bericht, Deutsch. Chem. Gesell., xxi, 2191.
[3] Ann. d' Hygiene, 1887, 18, 1.
[4] Pharm. Jour. et Transt., xix, p. 312.
[5] Pharm. Jour. et Transt., xix, p. 346.
[6] Jour. de Pharm. de Chemie, xix, p. 386.
[7] Pharm. Zeitung, 1889, p. 416.
[8] Asclepiad, p. 147.

ounce of vaseline as a sedative application in cases of external malignant disease in which there is ulceration with continuous pain. A little chloroform aids the mechanical mixing; it is best applied spread on lint.

MILK SUGAR AS A DIURETIC.

M. G. Sée [9] lately called the attention of the French Academy of Medicine to the powerful diuretic action of milk sugar. He attributes to this the like action of whole milk or its whey.

CAPSICUM COLOR.

Dr. Sauerman [10] has reported to the Physiological Society of Berlin, that a non-pungent coloring matter, obtainable from capsicum, when fed to young canary birds before they had moulted, had a marked effect in heightening the color of their feathers.

FRAUDULENT MERCURIAL OINTMENT AND LAUDANUM.

The Pennsylvania Pharmaceutical Association committee [11] on adulterations, have reported finding some blue ointment composed merely of lard, colored with Prussian blue. Of 77 samples of laudanum collected from all parts of the State, as well as New York City and Baltimore, but four were of full officinal strength; nine more were near enough to fall within the limits of reasonable error; while five failed to yield any weighable amount of morphine. The remaining fifty-nine samples were all classed as bad. Nearly all of the poor samples were either the bottled preparation from country stores or from manufacturers who supply that trade.

Forty-two samples of laudanum collected by the State Drug-Examiner of New Jersey,[12] were found upon analysis in thirty-four cases, to fall below the legal standard.

COMPOSITION AND IDENTIFICATION OF THE NATURAL DISTILLED SPIRITS.

M. X. Rocques,[13] of the *Laboratoire Municipale de Paris*, has reported a scheme for the identification of the natural distilled spirits, among which he includes the brandies from grapes, apples, pears, and other small fruits; also rum and whiskey. He distills nine successive fractions of one-tenth each, using Lebel and Henninger column, and subjects them each to the action of a series of five reagents. In these reactions he claims a notable difference between the natural and artificial product is shown in all cases, and in his report gives the details of his results.

COVERING THE SENSE OF TASTE FOR BITTER AND SWEET,

B. Berthold [14] reports that directly after chewing the leaves of gymnema sylvestre, a strong woody shrub from an asclepiadea found in Assam, on the Coromandel coast, and in Africa, the sense of taste for bitters and sweets is lost for one to two hours, but only for these two effects. Sugar then tastes like sand, and quinine pills like chalk. The leaves themselves, taste at first bitter and then slightly acid. The Hindoos have long used the bark as an antidote against snake-bite.

[9] Med. Pr. Circ., June 26, p. 669.
[10] Nature, June 20, p. 192.
[11] Am. Jour. Pharm., 1889, p. 337.
[12] Report of 1888.
[13] Bull. Soc. Chimique, 1, 157.
[14] Centr. Med. Wiss., 1888, p. 460.

BORIC ACID A NORMAL CONSTITUENT OF WINE.

Dr. Baumert,[15] of Halle, reports that he finds boric acid to be always present in natural wines grown in any of the wine producing countries of Europe, as well as in those of California.

TEA ADULTERATIONS FOR THE AMERICAN MARKET.

Consul Crowell,[16] of Amoy, reports that a large portion of the Amoy oolong tea is poorly cultivated, picked and dried; that it is dirty and adulterated, and was called "stuff," in the last year's report of the Amoy Commissioner of Customs, who added that it "was alone wanted in America." This last, the consul says, is true; for nearly the entire crop of Amoy oolongs — bad and unfit often for use as they are — are annually marketed in the United States, and, he thinks, the American public ought to be warned and protected against this so-called tea.

INGLUVIN.

Dr. A. Gawalowski [17] reports that he finds ingluvin originating from a New York firm to consist simply of three parts table salt with 97 parts of a crude pepsin containing starch.

HEAVY CALCINED MAGNESIA.

An American house [18] has reported that an English brand of heavy calcined magnesia, sold in competition with theirs, has, upon analysis, been found to consist simply of hydrated gypsum.

FUMIGATING PASTILS FOR FLIES AND MOSQUITOES.

Vomacka [19] commends a mixture of 100 parts each of coarsely powdered thyme leaves, lavender flowers and Dalmatian insect powder, with 90 of saltpetre, 9 of potash chlorate, 20 of gum tragacanth, and sufficient water to make into a mass. This forms an efficient and pleasant pastil for killing such insects.

WHALE EXTRACT.

A new food preparation has been introduced into Europe under the name of whale extract. This, from its cheapness is likely to become more widely known. It has, by the analysis of Dr. Otto Schweissinger,[20] of Dresden, the following composition here shown in connection with an average commercial meat extract:

	Whale.	Meat.
Water	23.23 %	23.01 %
Organic Matter, including Nitrogenous	59.07	60.00
Nitrogenous	4.12	7.44
Mineral Matter, including Salt	17.70	17.18
Phosphoric Acid	5.30	

ALUM BAKING-POWDERS.

Prof. J. W. Mallett, of the University of Virginia, has come to the following conclusions from his experiments with 27 samples of 17 brands of alum baking-powders: (1) These powders, as found in retail trade, give off very different proportions of carbolic acid gas, and therefore require to be used in different proportions with the same quantity of flour, some of the inferior powders in largely increased amount, to produce the requisite porosity in bread. (2) In these powders there is generally present an excess of the alkaline ingredient, but this excess varies in amount; and there is sometimes found, on the contrary, an ex-

[15] Berichte Deutsch. Chem. Gesell, 1888, p. 3290.
[16] United States Consular Report, April, 1889, p. 589.
[17] Pharm. Zeitung, xxxiii, p. 522.
[18] Amer. Pharm. Jour., 1889, p. 121.
[19] Druggists' Circular, 1889, p. 20.
[20] Pharm. Centralb., xxx, p. 96.

cess of acid material. (3) On moistening with water, these powders, even when containing an excess of alkaline material, yield small quantities of aluminum and calcium in a soluble condition. (4) As a consequence of the common employment of calcium acid phosphate along with alum in the manufacture of baking-powders, these, after use in bread, leave at any rate most of their aluminium in the form of phosphate. When alum alone is used, the phosphate is replaced by hydroxide. (5) The temperature to which the interior of bread is exposed in baking does not exceed 212° F. (6) At the temperature of 212° F., neither the water of combination of aluminum hydroxide, nor the whole of the associated water of either this or the phosphate, is removed in baking bread containing these substances as residues from baking-powder. (7) In doses not very greatly exceeding such quantities as may be derived from bread as commonly used, aluminum hydroxide and phosphate produce, or produced in experiments upon myself, an inhibitory effect upon gastric digestion. (8) This effect is probably a consequence of the fact that a part of the aluminum unites with the acid of the gastric juice, and is taken up into solution, while at the same time the remainder of the aluminum hydroxide or phosphate throws down in insoluble form the organic substances constituting the peptic ferment. (9) Partial precipitation in insoluble form of some of the organic matter of food may probably also be brought about by the presence of the aluminum compounds in question. (10) From the general nature of the results obtained, the conclusion may fairly be deduced, that, not only alum itself, but the residues which its use in baking-powder leaves in bread, cannot be viewed as harmless, but must be ranked as objectionable, and should be avoided when the object aimed at is the production of wholesome bread.

Clinical Department.

A CASE OF PARTIAL PLACENTA PRÆVIA IN A MULTIPARA.[1]

Recurrent Hæmorrhage between the Seventh and Eighth Month. Delivery by Manual Dilatation.

BY A. D. SINCLAIR, M.D.

Mrs. ——, about forty-two years of age, a multipara, had painless hæmorrhage about seven months and a half after pregnancy. The bleeding recurred again and again for two weeks but whether profuse or not I did not ascertain. She then called her family physician who tamponed the vagina during five consecutive days. He found the cervix very rigid and the os uteri small until the fifth day, when the cervix softened. At this time I was called on to aid in the case. The patient showed the loss of blood and was nervous. The vagina was largely dilated by the sponge tampons, and the cervix could be easily dilated, manually. Forced delivery was advised. The womb was readily entered and the child turned and extracted by the feet in about fifteen minutes. The placenta was found freed from the uterine wall on the left side to the extent of about two inches, but its upper segment was unnaturally adherent to the uterine wall. The placenta was smaller, thinner and more feeble than ordinary, contraction and retraction normal. The uterine cavity was thoroughly cleansed with warm water containing 1 to 3000 corrosive sublimate, the patient cared for in every way and made comfortable. Three days later she was reported to have had a decided chill with rise of temperature and pulse. She was given a uterine douche by her physician, and two grains of quinine in pill every hour, with the result that the temperature and pulse both fell and in a day or two were normal, and did not rise again. She made a good recovery. The infant, a feeble thing, lived three or four days.

[1] Read before the Obstetrical Society of Boston, April 13, 1889.

A CASE OF PUERPERAL ECLAMPSIA.[1]

BY T. J BRODERICK, M.D.

Mrs. M. W., thirty years of age, primipara, has enjoyed health up to her present illness. Married, June 27, 1888; and menstruated, July 6, 1888, for the last time. Her father is alive, her mother died twenty-seven years ago from some difficulty during child-birth. Mrs. W. went along in pregnancy comfortably, to within two weeks of her delivery, at which time her present illness began. During this time she noticed her eyelids and feet swollen; headache troubled her; nausea, vomiting, and loss of appetite.

On Sunday, March 24th, she ate her supper, and retired at 10 P. M. She did not sleep, and at 12 P. M. pains were present in her abdomen, which she ascribed to the food she had eaten. At 1 o'clock Monday morning she suddenly became unconscious, foamed at the mouth, eyelids opened, eyes stared, limbs stiffened. She became conscious in about half an hour, but did not feel well.

The pains in the abdomen continuing, with occasional nausea and vomiting and headache, I was sent for, and saw her for the first time, Monday the 25th, at 4.30 A. M. She was in bed, and complained of pains in her abdomen, headache, nausea and vomiting. Her eyelids and feet were œdematous, the right foot more so than left. Pulse 84. Uterus enlarged to about eight months' pregnancy, with contractions causing the pains in abdomen. Fœtal heart-sounds heard on the right side of abdomen, and one hundred and thirty-eight beats to the minute. I requested her to move to the opposite side of the bed to make a vaginal examination. She raised herself on her elbow, but suddenly fell back unconscious, on the bed. Her eyelids closed, then opened, eyes fixed, limbs stiffened, respiration ceased, soon followed by twitching of muscles of the face, moving the arms and legs, stertorous respiration and slight frothy saliva at mouth, and gradual return of consciousness in an hour. Then followed a second convulsion, severer than the first. I saw, during the tonic period marked cyanosis and swelling of face, absence of respiration, slow and irregular pulse, followed by the chronic stage with loud, stertorous and irregular respiration, rapid and feeble pulse, frothy saliva at mouth, and convulsive twitching of muscles of face and extremities. From this time she remained unconscious. A third convulsion followed in one hour, and a fourth in two hours after, or at 9 A. M., having had five convulsions in nine hours.

[1] Read by invitation before the Obstetrical Society of Boston, April 13, 1889.

At this time Dr. Forster was asked to see her in consultation. She was in bed, unconscious, breathing normally, skin perspiring freely, lips red and face swollen, pulse 84–92, and temperature 99° half an hour before. No urine or fæces passed. Delivery by internal version was decided as the proper course to pursue, but as the patient was comfortable at the time, delay was counselled for a time. At 11.30 A. M., a sixth convulsion occurred, not so severe as the previous three, and at 1.45 P. M., a seventh followed; after which I drew off urine (in amount about two ounces), with blood, and about one-half per cent. of albumen present. Then, at consultation, it was deemed advisable to empty uterus as soon as possible. From 2.30 P. M. to 4 P. M. she had two slight convulsions. At 4.45 P. M. or seventeen hours after the first convulsion, version was begun, Dr. Forster, Dearborn and Broderick present. During dilatation of vagina a slight convulsion occurred, and the hand entered the vagina in twenty minutes. During dilatation of os the membranes were accidentally ruptured. Before complete dilatation of os pulsation could be felt in chord but it was slow and irregular. When the hand entered the uterine cavity in one and three-quarters hours no pulsation was present. The position of child was verified as O. R. A. The left leg was seized, the child turned and head expelled in two hours from the commencement of dilatation of vagina. The placenta was expelled in ten minutes with slight hæmorrhage. The pulse varied from 120 to 135 per minute during version. Fifteen minutes after delivery the pulse dropped to 108 per minute. Within the next two hours, two slight convulsions occurred. At 10 P. M., or three hours after delivery, a severe hæmorrhage occurred. Pulse 135, and for a time absent from wrist; lips and face pale; limbs cool; tossing arms and body about the bed, and sighing. The hæmorrhage ceased and in one hour the pulse was 120, and patient quiet in bed.

At 6 A. M., Tuesday 26th, pulse 92, temperature 98.5°; no urine passed since 2 P. M. the previous day. At 10 A. M. I drew off her urine; specific gravity 1014, slightly acid, albumen about one-third per cent. She remained semi-conscious during the day. At 6 P. M., Tuesday, temperature 99°, pulse 94. Comfortable Tuesday night and conscious Wednesday morning with temperature 99.5°, pulse 100. Urinated voluntarily, passing nine ounces; specific gravity 1014, pale in color, albumen present. Œdema of eyelids and feet disappearing, and on the seventh day entirely absent. The highest temperature 101° was on the evening of the fourth and morning of the fifth day. The highest pulse after hæmorrhages was at the same time, 115–112. On the 14th day temperature and pulse normal, and have continued so to the present time. The last twenty-four hours the urine in amount is thirty-five ounces, color pale, specific gravity 1016, reaction slightly acid, albumen about one-sixth to one-eighth per cent.

Diagnosis.— Puerperal eclampsia, caused by uræmic poisoning from acute Bright's disease.

Prognosis.— Mother alive, child dead.

Treatment.— When first seen and diagnosis made, I gave her a quarter of a grain of morphine subcutaneously, and followed it with a warm, moist air-bath and within half an hour her body and limbs were perspiring freely. Three-fourths of an hour after the morphine I administered ether, and kept her under the influence of it with occasional intermission, till after delivery; two and one-half hours after commencing anæsthesia I gave her twenty-five grains of chloral by rectum, and in one hour repeated it. After expulsion of child, a subcutaneous injection of ergot, and expulsion of placenta by pressure on uterus. When post-partum hæmorrhage occurred, she received thirty minims of fluid extract of ergot subcutaneously and thirty minims of ether and firm pressure on the uterus and warmth to extremities. The after-treatment was rest in bed, milk diet and water freely.

A CASE OF PUERPERAL ECLAMPSIA AT THE SIXTH MONTH, TERMINATING FATALLY.[1]

BY DAVID A. COLLINS, M.D.

MRS. C., primipara, aged twenty-four, in January last noticed a slight swelling about the feet and ankles which gradually extended up both legs, involving eventually the abdomen, arms, hands and face, there being a slight puffiness of the lower eyelids. As this state of affairs occasioned no unpleasant symptoms, it was allowed to pass unheeded until about the first of March, when she began to complain of severe headaches, nausea and vomiting, for which on the 11th of March she consulted her family physician, Dr. E. N. Whittier, who examined her urine and found it to contain about three-quarters per cent. of albumen.

The next morning, the 12th, at 5. A. M. the first convulsion occurred. I arrived at 7 A. M. and found Dr. E. J. Forster in attendance. He had placed her under ether, she having had three convulsions in the two hours. A hot-air bath was applied and Dr. Whittier was sent for. In the meantime I relieved Dr. Forster for two hours during which time she had three convulsions. At 10 A. M. Dr. Whittier arrived, and the induction of labor was begun by manual manipulations. At the end of two and one-half hours the os was dilated sufficiently to admit the hand, when the membranes were ruptured and a foot brought down. The trunk was delivered without much difficulty, but it was found that the cervix had contracted quite firmly about the neck, for which manual dilatation was again tried with but little success. The traction on the trunk caused a tearing of the neck, which continued to tear until it was necessary to completely sever the body from the head. The forceps were now applied to the head, but were ultimately abandoned through fear of lacerating the cervix; and it was decided to do craniotomy, which was performed by Dr. Forster, he perforating the head through the mouth, and delivering with the cranioclast. The placenta was expressed ten minutes after. A bi-chloride douche (1-3000) was given and antiseptic pads applied. It was now 1.30 P. M., just three and one-half hours since the induction of labor was begun. At 2 P. M. the next convulsion occurred, and the ether was again applied, and a subcutaneous injection of morphia (gr. ¼) was given. At 3 P. M. she had another convulsion, and at 3.30, the injection of morphia was repeated and the hot-air bath was given with little effect. At 4 P. M. a subcutaneous injection of brandy was given. The next convulsion occurred at 5 P. M., from which time up to 10 P. M., she had four very violent spasms. At 11 P. M. the catheter was passed and eight ounces of urine were drawn.

[1] Read, by invitation, before the Obstetrical Society of Boston, April 13, 1889.

March 13th. First convulsion at 3 A. M., followed by another at 7.30 A. M. At 8 A. M. the hot-air bath was applied, and she was given an injection of ten minims each of digitalis and brandy, which was repeated at 10.25 A. M. At 10.30, Dr. W. L. Richardson arrived, and ordered one-sixth of a grain of pilocarpine, which was given at 10.55 A. M. (I would state here that our reason for not giving pilocarpine earlier was the fear of producing profuse salivation while we were obliged to keep our patient in a state of complete anæsthesia.) This was tried, but as she reached a semi-conscious state she was seized with another convulsion. The axillary temperature at noon was 106.2°, pulse 150, respiration 20; at 3 P. M. it was 105.2°, pulse 142, and respiration 26. The catheter was passed at 5 P. M. and four ounces of urine drawn which contained about three-quarters per cent. of albumen. At 5.30, the bi-chloride douche (1-3000) was given. Lochia good. At 5.40, repeated the injection of pilocarpine. Temperature at 6 P. M. 104.2°, pulse 150, respiration 20. The next convulsion occurred at 8.30. At 9 P. M. temperature 106, pulse 160, respiration 26. At 11 P. M. the last convulsion occurred. At 12 temperature 108°, pulse 155, respiration 35.

March 14th. Catheter passed at 1 A. M. (no urine in the bladder) after which time the patient began to fail. The ether was discontinued at 3 A. M. Temperature at that hour 105.2°, pulse 150, respiration 30. At 6 A. M. the temperature was 104.2°, pulse 160, respiration 24; at 9 A. M. temperature 106, pulse 170, respiration 32. The brandy and digitalis injection was given at 10.30, and repeated at 11.15 A. M. Temperature at noon 105°, pulse 164, respiration 28. At 3 P. M. she was given another injection of brandy and digitalis, the temperature now being 107.8°, pulse 168, respiration 30. At 3.30 P. M. an injection of brandy was given. About 4 P. M. she vomited, the material having a highly urinous odor. At 6.45, another injection of brandy was given. At 9 P. M. the temperature was 107°, pulse 170, respiration 24. After this hour she began to sink quite rapidly until 10 P. M., when she died, just sixty-five hours since the commencement of the convulsions, of which she had nineteen, seven being ante-partum and twelve post-partum.

A CASE OF HYDRENCEPHALOCELE.[1]

BY HORACE E. MARION, M.D.

MALE child, sixty days. At birth, January 28th, there was a tumor, pediculated, from over site of posterior fontanelle, as large as the child's head. At birth the face presented, chin under the pubes. Labor rapid, without complications, as was the convalescence of mother. Infant was tended on a pillow placed on a thin piece of board the size of pillow, and fed from a bottle, it being so difficult for mother to hold child to breast; besides, it was not believed that the child would live, so thin was the wall of the tumor in many places. It was translucent over every part, and so heavy that the child could not move its head at all, but was obliged to lay as placed. The forehead was markedly retreating.

The head and tumor grew, but the body and limbs did not. He was shown at Massachusetts General Hospital, when three and one-half weeks old. At the age of five weeks, I aspirated, removing about two-thirds of a pint of clear fluid, as clear and limpid as water. The whole tumor collapsed, except in the upper portion, which was translucent and was supposed to be another cyst or compartment. The puncture was at the pedicle, directed into the tumor. From the aspirations I felt comparatively certain that it contained nothing but fluid and perhaps some gelatinous material. The irregular contour of the posterior fontanelle could easily be made out.



It would have been better to have tried to have evacuated the whole tumor. I did not persist, as I thought I had sufficiently demonstrated its character, and beside I wished to produce as little shock as possible. Within twenty-four hours the tumor had completely refilled.

From this time the child grew more and more of a care. The body and limbs seemed to emaciate. There was a constant mucus discharge from the nose. In one place on the tumor there was a scab from which there was more or less oozing.

The parents, of their own accord, said they were willing that I should try anything for the child's relief, even to complete removal. As there was nothing but a protracted death to look forward to, if left alone, it was decided to attempt its removal. The parents were told that there were many chances against the child's going through an operation.

Dr. R. R. Andrews kindly and very artistically photographed the baby. Dr. M. H. Richardson kindly assisted, and gave me the advantage of his rare tact in such doubtful operations.

Making a snip with the scissors over one of the places that seemed but the merest film, it proved to be gelatinous, and a much deeper cut had to be made. The contents of the tumor were evacuated; it was made up of several separate compartments or cysts, which had to be evacuated separately. At the pedicle there was more resistance than in the gelatinous portion above. This proved to be brain substance, a small portion of which was removed in cutting off the redundant skin. The flaps were hurriedly stitched together over the brain substance, the child looking from the first as if it would be impossible to finish

[1] Read by invitation, before the Obstetrical Society, of Boston, April 13, 1889.

the operation. Indeed, I was indebted to Dr. Richardson for much timely help.

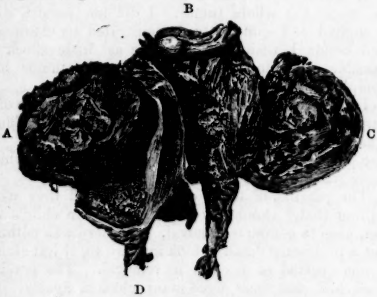
The wound was dressed with antiseptic cotton, and the child given to its mother; it died about half an hour after the operation.

No further examination of child's head was allowed.

TUBAL PREGNANCY: OPERATION, RECOVERY.[1]

BY GEORGE HAVEN, M.D.

MRS. M. consulted me on March 27, 1889, and gave the following history. Is thirty-one years old; has been married for ten years, and is the mother of five children, the youngest being now seventeen months old. She remained in bed for five days after her last confinement, and felt perfectly well and strong. Thirteen months after the birth of the child, she menstruated for the first time, the flow lasting for three weeks. She now felt much pain in lower abdomen and back, and was compelled to remain in bed from one to three days each week; had very little appetite, and vomited almost constantly. Nine weeks later she had one or two labor pains and passed a mass about the size of a pear. She now grew rapidly worse, having much more pain, and rarely leaving her bed. Says that when the pain came on, her abdomen was very tense, that her knees were flexed upon it, and that the slightest weight gave her great pain. The bowels were constipated, and when a movement was produced, the pain was excruciating; vomited constantly. Morphia was given in solution, a teaspoonful of the mixture being taken p. r. n.



A, Mass in tube. B, Broad ligament. C, Ovary. D, Uterine end of tube.

She looked pale and anxious; abdominal wall lax; examination painful; Douglas's fossa was filled by a mass of uncertain shape, which extended towards the right side; the uterus was pushed forward, felt large, but was freely movable. Laporatomy advised. She was asked to see Dr. C. M. Green, who also advised an operation.

On April 5th she went to a private hospital, and on the 6th I opened her abdomen. Dr. Green was kind enough to be present, Drs. Reynolds, Lovett and Sears assisting. The peritoneum was thickened by old inflammation. The mass was easily felt on the right side, and was adherent to the sides of the pelvis, with adhesions running in all directions. It seemed at first an almost hopeless task to free it; but after much tearing, it was brought outside of the abdomen. The larger adhesions were tied and cut; the tube, ovary, and broad ligament were all removed together. The tissues were very friable, and it was only by tying very lightly that the ligatures were prevented from cutting. The abdominal cavity was washed out with warm water, and the wound closed with seven silver sutures. A drainage-tube was inserted, but was removed on the second day.

The patient left the hospital on the twentieth day after the operation. The temperature was never over 100°, and the highest pulse was 90. I have seen her twice since she left. She looks like a different woman, and says she feels perfectly well. Dr. H. H. Sears kindly examined the specimen for me, and says, "The most interesting part of your specimen; namely, the mass in the tube, showed at place of insertion, under the microscope, the presence of chorionic villi, thereby settling the diagnosis of tubal pregnancy."

[1] Reported by invitation, to the Obstetrical Society of Boston, April 13, 1889.

Reports of Societies.

AMERICAN OPHTHALMOLOGICAL SOCIETY.[1]

AFTERNOON SESSION.

THE TREATMENT OF CARIES AND NECROSIS OF THE ORBIT,

by DR. H. KNAPP, of New York.

The upper wall of the orbit is the most frequent seat of disease and here its consequences are most dangerous. In every case of caries and necrosis of the orbit the condition of the neighboring cavities and especially the nose should be carefully investigated. Foci of suppuration should be freely opened, the cavity thoroughly cleansed and drainage established. This can be well accomplished by small silver tubes provided with flanges. Rough bone should be scraped away with a sharp spoon, necrosed portions of bone should be removed as soon as they become loose or when they can be detached without injury to adjacent tissues. The eye-ball should be protected and if there is insufficient closure of the lids, a plastic operation should not be postponed until the cornea becomes ulcerated from exposure.

MULTIPLE CYSTS OF THE IRIS OCCURRING IN BOTH EYES,

by DR. H. W. WILLIAMS, Boston.

The subject was a girl nine years of age. In the right eye there was a projection resembling a large cyst extending from the upper margin of the pupil. A similar growth projected from the temporal border. At the inner part there were two small pedunculated growths. All were of the color of the iris. In the left eye, two somewhat oval cysts filled the pupillary space. Through the square opening left in each pupil there was a little oblique vision.

SARCOMA OF THE OPTIC NERVE.

by DR. T. Y. SUTPHEN, of Newark.

The patient was ten years of age. The tumor involved the left orbit and was of two years' duration.

[1] Concluded from page 137 of the Journal.

It was of a mushroom shape and sprang from the optic nerve. It size was 6 in. by 5¼ in., and 2 in. thick. It was readily removed with curved scissors. As much as possible of the nerve was removed.

EXTENSIVE VASCULAR GROWTH IN THE VITREOUS.

by DR. GEORGE C. HARLAN, Philadelphia.

The patient a woman, fifty years of age, presented herself November 29, 1888, on account of disturbance of vision. Examination of the right eye, showed the fundus to be slightly hazy, with small dull white spots about the macula, the remains of old hæmorrhages but no recent exudation. The disc was obscured by a delicate network of vessels. Otherwise there was no opacity. There was no stroma. Up to March 2, 1889, there had been several retinal hæmorrhages, but there had been nochange in the vascular membrane. Vision had been reduced to $\frac{20}{70}$.

EXTRACTION FROM THE VITREOUS OF PIECES OF STEEL BY THE MAGNET.

by DR. O. F. WADSWORTH, Boston.

The author described two cases in which the piece of steel was removed by passing an electro-magnet into the vitreous through an opening in the sclera. In the second case, the operation was followed some weeks later by a separation of the retina beginning at a point opposite that at which the puncture was made.

CORNEAL TRANSPLANTATION.

by DR. J. O. TANSLEY, of New York.

The speaker reported a case in which he had done this operation for opacity of the cornea. At the first operation the opacity was not removed to its full depth and although the cornea cleared to a certain extent, the result was not satisfactory. The operation was therefore repeated, but without any improvement in vision. In both operations there was primary union of the graft and in neither was there any inflammatory reaction.

DISCUSSION.

DR. L. WEBSTER FOX, Philadelphia: I have performed the same operation in the case of opacity of the cornea where the patient could just distinguish light from darkness. The graft healed readily without inflammatory reaction, and the patient obtained useful vision and could almost count fingers.

AN ANALYSIS OF SOME OF THE OCULAR SYMPTOMS OBSERVED IN SO-CALLED GENERAL PARESIS.

by DR. CHARLES A. OLIVER, Philadelphia.

These observations were made on twenty well-marked cases of general paralysis of the insane. The study was limited to subjects in the so-called second stage of the disease, where the psychical symptoms had become of such a character as to necessitate control and where motor and sensory derangement had become more or less manifest. Care was taken that each subject was seemingly free from any extraneous general disease or local disorder, and the entire study was limited to the male sex so as to escape any conflicting and complicating changes that might appear in connection with the many diseases peculiar to the female sex. Thirty observations were made resulting in the following summary:

(1) The sensory changes herein described, which have been limited to unequal optic nerve degeneration, decrease of retinal circulation, with subnormal direct and eccentric vision for both form and color, distinctly show lowered sensory response.

(2) The motor symptoms, consisting in unequal and feeble movement of the irides, causing inequality and irregularity of pupillary areas, the peculiar form of ataxic nystagmus, the slight loss of ciliary tone, all express want of proper muscle action, — true paresis.

(3) The peculiarly local conditions shown in the fundus, such as the pigment massings, the crescents of absorption, the disturbed and granular condition of the choroid, etc., all indicate wear and tear of an abused and irritated organ.

(4) Therefore, these observations upon the ocular apparatus, which were most probably made during the second stage of the disease known as general paralysis of the insane, show not only local changes, but distinctly demonstrate that the series of sensory motor disturbances found, are but the peripheral expressions of one of the many indices of gradual loss of neural strength and power in this disease.

DR. GEORGE C. HARLAN, of Philadelphia, reported a case of

HYSTERICAL BLINDNESS

of ten years' duration in a male twenty two years of age.

DR. SAMUEL B. ST. JOHN, of Hartford, described

A CASE OF HEMIANOPSIA WITH PECULIAR CEREBRAL SYMPTOMS.

DR. B. ALEXANDER RANDALL, read a paper on

SIMPLE TESTS OF THE OCULAR MUSCLE.

DR. T. Y. SUTPHEN, of Newark, N. J., reported

A CASE OF DOUBLE PURULENT CHOROIDITIS RESULTING FROM MENINGITIS.

February 23, 1887, was called in consultation to see G. W. B., a robust farmer, aged thirty-nine years. He had always been healthy, with the exception of an occasional "bilious headache." Never had any specific trouble. The history was that on February 9th, he came in at noon perspiring very freely. That evening he suffered with intense headache. The next morning he was apparently well, but at breakfast had a violent chill with aching of the whole body, this was followed by high fever. Leaving the breakfast-table was the last that the man remembered for three months. From this time the patient rolled and tossed in bed without decided delirium, but being in a stupid condition and easily restrained. Questions were answered only after frequent repetition and the replies ran into complete incoherence. On the third day of the illness the body became quite rigid with the head thrown backwards. On the fourth day, the left hand and forearm became swollen and the right eye inflamed, the left eye became inflamed on the tenth day. Later the left foot became swollen. The swelling of the hand and foot lasted about a week and then subsided. The fever then became less violent and the general condition improved but the mental sluggishness remained. There was no paralysis, no convulsions, no vomiting. At the end of the third week he had a slight chill and another after he was out of bed.

At present the man is apparently in good health. He has lost none of his functions, and his mind is perfectly clear. When first seen by the writer the eyes were in the following condition: No swelling of the lids; moderate pericorneal injection; cornea clear; anterior cham-

ber normal in depth; irides slightly discolored; pupils moderately dilated, with a yellowish reflex from the anterior portion of the vitreous. There was no perception of light; no tenderness on pressure, but a marked lessening of the tension of the globe. Three days later, the anterior chamber in each eye was obliterated by pressure from behind the lens; the eyeballs being harder than normal. One week later, the anterior chamber was again restored and tension had again fallen much below the normal. From that time there was progressive atrophy of both eyes until now there is left only the greatly shrunken globes, with of course, absolute blindness.

In this case there must have been an extension of the intra-cranial inflammation along the sheath of the nerves and not a forcing of the products of inflammation forwards, as sufficient pressure within the cranium to produce this must evidently have become apparent by more or less paralysis.

The case is reported simply as a clinical contribution to this somewhat rare and obscure trouble which is certain to be met with in the course of practice.

THURSDAY — MORNING SESSION.

CONTRIBUTIONS TO THE SUBJECT OF TUMORS OF THE ORBIT AND NEIGHBORING CAVITIES,

by DR. C. S. BULL, New York.

CASE I was an adenoma sarcoma of the lachrymal gland. It was operated on two years ago. There has been no return.

CASE II was one of abscess of the ethmoid cells, frontal sinus and orbit in a male aged forty-six years. It was opened, washed out and drained. There was perfect healing.

CASE III was tumor of the maxillary antrum, nasal fossa, ethmoid cells, orbit and cranial cavity. The eye was enucleated and the maxillary antrum cleaned out. A large opening was found through the orbit into the anterior fossa of the skull and through this the tumor extended. The evening following the operation the patient became comatose and died the next morning.

DISCUSSION.

DR. H. KNAPP, New York: The report of these cases shows the necessity of early operation in all cases of tumors of the orbit or near the orbit.

DR. B. A. REEVE, Canada: In a number of these cases of empyema of the frontal sinus, I have found hypertrophy of the middle turbinated bone. This is a point of importance in etiology and prophylaxis.

CASE OF DOUBLE CHOKED DISC DUE TO INTRACRANIAL TUMOR, WITH AUTOPSY,

by DR. C. S. BULL, New York.

The patient, a young married woman, twenty-three years of age, was seen June 30, 1888. In February, 1888, had a miscarriage and was quite ill for a couple of weeks. There was dull headache at vertex. This became more severe. During April, there were occasional attacks of diplopia. During May there was failing vision. When examined, $V = \frac{18}{xx}$ in each eye. Accommodation was normal. There was no peripheral limitation of the field of vision either for form or color. There was an irregular negative scotoma for all colors. There was marked exudative neuro-retinitis with hemorrhages in both eyes. Urine proved normal on examination. The only symptoms of intracranial disease were the lesions of the optic nerve and the headache at the vertex. The diagnosis was intracranial tumor at the base of the brain. Vision rapidly failed, and by September 25th there was no perception of light. The mental faculties gradually became impaired. Right hemianæsthesia came on. The patient died May 5, 1889. Autopsy showed a tumor involving the corpora quadrigemina and extending to the anterior crura of the cerebellum. The growth appeared to be a glio-sarcoma.

DR. O. F. WADSWORTH, Boston, reported a case of torticollis cured by

TENOTOMY OF THE EXTERNAL RECTUS.

PARTIAL TENOTOMIES IN CASES OF NEURASTHENIA WITH INSUFFICIENCY OF THE OCULAR MUSCLES,

by DR. MYLES STANDISH, Boston.

The author reported five cases in which he had performed this operation on account of constant headache, inability to use the eyes and neurasthenic symptoms. In all but one there was marked and prompt relief of the local and general symptoms by the operation. Cases requiring operation are comparatively few.

NOTES ON SOME VAGARIES OF ACCOMMODATION,

by DR. DAVID COGGIN, Salem.

One case was of hypermetropic astigmatism passing into myopia. A case of recurrent spasm of accommodation was also reported. The third case was one of temporary anomaly of sight occurring daily. In the morning could see well, but in the afternoon could not recognize objects across the street. Double vision also occurred. The disturbance is gradually disappearing.

EFFECT UPON THE ACCOMMODATION OF A PATIENT'S EYE CAUSED BY LOOKING INTO A MIRROR SET OBLIQUELY IN THE ROOM DURING OPHTHALMOSCOPIC EXAMINATION,

by DR. E. E. HOLT, Portland.

Directing the patient to look with one eye into a mirror set obliquely while the other was examined with the ophthalmoscope an element of ease was found in making the examination and of comfort and steadiness on the part of the patient never experienced before. The eye fatigues quickly in looking at a single object. Looking into the oblique mirror gives the impression of gazing into the distance. A notable change in the pupil will be observed when the patient is directed to look at an object at the distance of the mirror and when he is directed to look at objects reflected from it.

PARALYSIS OF THE SPHINCTER IRIDIS,

by DR. O. F. WADSWORTH, Boston.

A case was reported of paralysis of the sphincter iridis, without affection of the accommodation, lasting several months and following the instillation of homatropine in both eyes.

DISCUSSION.

DR. SAMUEL THEOBALD, Baltimore: In all such cases it is important to exclude malingering. It would be possible for the patient by the use of a weak solution to keep up the mydriasis without affecting the accommodation.

DR. SAMUEL D. RISLEY, Philadelphia: Another

practical explanation of such cases is the use of a pipette previously used for a solution of a mydriatic, for a solution which contains no mydriatic.

DR. JOHN GREEN, St. Louis, presented a series of

GEOMETRICAL CONSTRUCTIONS ILLUSTRATING CERTAIN CASES OF OBLIQUE PENCILS REFRACTED AT CYLINDRICAL AND SPHERICAL SURFACES.

Dr. John Green also read a paper on

SOME OF THE STEREOSCOPIC ALTERATIONS EVOKED BY UNEQUAL GLASSES PLACED BEFORE THE TWO EYES.

DR. SAMUEL THEOBALD, Baltimore, presented a paper on

THE EMPLOYMENT OF OLEATE OF VERATRIA TO FACILITATE THE DETERMINATION OF ERRORS OF REFRACTION.

A mydriatic affords valuable aid in myopia and in hypermetropia, but in astigmatism its use is not so satisfactory. In astigmatism he had found great help from the use of a 10 per cent. oleate of veratria to the temple and forehead once a day for three or four days. This seems to exert a quieting effect upon the ciliary muscle, and especially of the radiating fibres, and lessens the tendency to asymetrical accommodation. The following rule was formulated in regard to the correction of astigmatism. When the astigmatism is according to the rule, we need correct only that which is readily made manifest. On the other hand, in astigmatism against the rule, we are warranted in correcting fully every part of the defect which can be rendered manifest.

THE INEFFICIENCY OF HYDROBROMATE OF HOMATROPINE IN CONTROLLING THE ACCOMMODATION FOR THE PURPOSE OF FITTING GLASSES,

by DR. E. E. HOLT, Portland.

The experience of the writer was that this drug could not be relied upon. He reported one case in which the latent hypermetropia revealed by three per cent. solution of hydrobromate of homatropine was just one-half of that revealed by one per cent. solution of atropia.

DISCUSSION.

DR. EDWARD JACKSON, Philadelphia: I have found homatropine entirely satisfactory when used properly. The instillations must be repeated at short intervals, five or ten minutes, and three or four instillations practised. The effect rapidly passes off, and the examination must be made within one or two hours. I have followed the use of homatropine by another mydriatic without alteration in the result.

AMETROPIA AS DETERMINED UNDER COMPLETE MYDRIASIS,

by DR. EDWARD JACKSON, Philadelphia.

He had examined 4,000 eyes under complete paralysis, and presented the following table of his results. These were compared with results obtained by another observer without mydriasis.

	With Mydriasis.	Without Mydriasis.
Compound hyperopic astigmatism	40 %	9½ %
" myopic "	9	11
Simple hyperopic "	6	16½
" myopic "	2	24
Mixed astigmatism	6½	2
Hyperopia	31	10
Myopia	4	9½
Emmetropia	1½	17½

DR. JACKSON also presented a paper on

ACCURACY IN THE PRESCRIPTION OF PRISMS.

DR. W. S. DENNETT, New York, read a paper in which he suggested a

NEW UNIT OF ANGULAR MEASUREMENT FOR PRISMATIC GLASSES.

DR. GEORGE C. HARLAN, of Philadelphia, exhibited

PERISCOPIC–CYLINDRICAL AND SPHERO–CYLINDRICAL LENSES.

DR. W. F. MITTENDORF, New York, presented

A CASE OF AMBLYOPIA DUE TO CHLORAL HYDRATE.

The object was to put on record a case of toxic amblyopia, due to chloral hydrate. The patient had for six months been in the habit of taking 40–60 grains of the drug at night to induce sleep. Suspension of the drug relieved the amblyopia.

EXECUTIVE SESSION.

Officers for ensuing year: *President*, Dr. Hasket Derby, Boston; *Vice-President*, Dr. George C. Harlan, Philadelphia; *Secretary and Treasurer*, Dr. Samuel B. St. John, Hartford; *Corresponding Secretary*, Dr. J. S. Trout, Brooklyn; *Delegate to the Executive Committee of the Congress of American Physicians and Surgeons*, Dr. John Green, St. Louis; *Alternate*, Dr. D. B. St. John Roosa, New York.

The following were elected to membership: Dr. Carl Koller, New York; R A. Reese, Toronto, Can.; Dr. David Harrower, Jr., Worcester, Mass.; and Dr. Geo. E. de Schweinitz, Philadelphia.

The Society then adjourned to meet at the Hotel Kaaterskill, the third Wednesday of July, 1890.

MEETING OF THE OBSTETRICAL SOCIETY OF BOSTON.

CHARLES W. TOWNSEND, M.D., SECRETARY.

APRIL 13, 1889, the President, DR. J. P. REYNOLDS, in the chair.

DR. D. A. COLLINS read, by invitation,

A CASE OF PUERPERAL ECLAMPSIA AT THE SIXTH MONTH, TERMINATING FATALLY.[1]

DR. T. J. BRODERICK read, by invitation,

A CASE OF PUERPERAL ECLAMPSIA.[2]

DR. SINCLAIR spoke of the great importance of thoroughly dilating and tiring out the muscles of the cervix. If turning is attempted before this is accomplished great difficulty is encountered in the delivery of the after-coming head, and lacerations of the cervix occur. There is a great temptation to turn as soon as the hand has entered the uterus, and before the cervix is thoroughly dilated. The longest time he had spent in dilating the cervix was four hours, the shortest five minutes. He thought the average time needed was about an hour to an hour and a quarter.

DR. RICHARDSON thought that two hours was about the average time needed for this procedure.

DR. FOSTER had found the dilatation of the cervix

[1] See page 158 of the Journal.
[2] See page 157 of the Journal.

to be more readily accomplished in cases of placenta prævia than in eclampsia.

DR. SINCLAIR said that this depended on the amount of hæmorrhage. If this had been profuse, the tissues were relaxed and the cervix was easily dilated.

DR. WHITTIER remarked that in Dr. Collins's case three men alternated in dilating the cervix.

DR. RICHARDSON placed great reliance in cases of eclampsia, on pilocarpine given energetically in doses of one-sixth to one-quarter of a grain, and repeated in half an hour if necessary. The hot-air bath was employed at the same time. He was not afraid of salivation, and had never seen any bad effects from the use of pilocarpine. As soon as profuse diaphoresis occurred the prognosis at once changes and becomes favorable, unless there is chronic disease of the kidneys; and he asked whether any one had seen any dangerous effects from pilocarpine.

Morphia, he now believed, might retard the action of the kidneys, therefore should not be used. Ether need not be used continuously; but at the first sign of a convulsion it should be given to mitigate, if not to prevent, the convulsion. Immediate delivery should, of course, be resorted to. He had noticed that post-partum hæmorrhage was common in uræmic convulsions, and this seems to be nature's way of blood-letting. Cases in which this occurs generally do better than the others. The two cases reported were cases in point.

DR. J. P. REYNOLDS had come to the conclusion, from the study of a considerable number of cases, that no good effect could be obtained from the intermittent use of ether in comparison with the continuous use of the same. As he had never seen convulsions recur when the ether was given continuously, he should always prefer this method; and he asked the question whether continuous etherization did not always prevent the recurrence of convulsions.

DR. SINCLAIR agreed that ether should, in these cases, be given continuously. Before the days of pilocarpine, calomel and jalap were depended on.

DR. C. E. STEADMAN spoke of a patient to whom pilocarpine produced such extreme salivation that he was afraid she would choke to death, the patient being under ether. No effect was produced on the skin, although a hot-air bath was given at the same time.

DR. E. REYNOLDS wished to lay stress on the importance of immediate delivery, as every fresh eclamptic seizure was an element of danger. The prophylaxis he considered also of great importance. Cases are common where there is marked œdema, headache, vomiting, concentrated urine with albumen and casts, and where convulsions seem imminent. He had had marked success in the treatment of these cases, even if they were seen for the first time only a few days before confinement. He relied for treatment on free catharsis together with the use of the tinct. ferri chloridi. He referred to a case reported by him a year ago treated successfully by Epsom salts.

DR. SINCLAIR spoke of a case he had seen in consultation, and advised immediate delivery. This was refused for twenty-four hours, during which the patient had twenty-seven convulsions. At the end of this time she was delivered artificially, and she died nine hours later.

The PRESIDENT, in summing up, assumed that the Society would admit the following facts:

(1) That there is nothing to be gained by waiting in cases of puerperal eclampsia.

(2) That the continuous administration of ether has not been known to allow the reappearance of convulsions.

(3) That slow manual dilation and emptying of the uterus is repeatedly successful.

DR. G. HAVEN, present by invitation, showed a

SPECIMEN OF TUBAL PREGNANCY

he had removed by laparotomy, and gave a report of the case.[3]

DR. GREEN, who had seen the case with Dr Haven, said that no previous diagnosis of tubal pregnancy had been made, and that the reason for the operation was the severe pain and continued vomiting, together with the presence of the tumor.

The PRESIDENT asked the Society whether a nursing woman, whose menses return at the first or second month, is more likely to become pregnant than one who does not menstruate.

DR. RICHARDSON replied that, as soon as she menstruates, she is liable to become pregnant. He was surprised to find from a German author, that, in an analysis of some one thousand cases, menstruation returns in the majority of nursing women at the third or fourth month; and his own inquiries in this direction confirmed this statement, and he thought that the majority of women conceive again while nursing.

DR. GREEN wished to confirm these observations, and added that among the lower classes there are many who have not menstruated for years, pregnancies coming at such frequent intervals.

DR. SINCLAIR reported

A CASE OF PARTIAL PLACENTA PRÆVIA IN A MULTIPARA; RECURRENT HÆMORRHAGE BETWEEN THE SEVENTH AND EIGHTH MONTH; DELIVERY BY MANUAL DILATION.[4]

DR. H. E. MARION, reported by invitation,

A CASE OF HYDRENCEPHALOCELE, AND SHOWED PHOTOGRAPHS.[5]

SEMI-ANNUAL MEETING OF THE WHITE MOUNTAIN MEDICAL SOCIETY.

L. W. HANSON, M.D., SECRETARY, *pro tem.*

THE Semi-annual Meeting of the White Mountain Medical Society was held in the old chapel of Dartmouth College, at Hanover, N. H., August 1st and 2d. The Connecticut River and White River Medical Societies both met at the same time and place, by invitation of the White Mountain Society. Upon invitation, several members of the faculty of Dartmouth Medical College, which is now in session, kindly consented to take leading parts, and speak upon subjects pertaining to their respective specialties. This was a new departure for this Society, but proved very gratifying and beneficial to all present.

The meeting was called to order at 3 o'clock, P. M., August 1st, by the President, DR. GEORGE W. MCGREGOR, of Littleton, N. H., who invited the presidents of the visiting societies, Professor Frost and

[3] See page 160 of the Journal.
[4] See page 157 of the Journal.
[5] See page 159 of the Journal.

Dr. Wood, to seats upon the platform. The Secretary, DR. C. R. GIBSON, being absent, DR. L. W. HANSON, of Bradford, Vt., was appointed Secretary, *pro tem.*

PROFESSOR CONNOR, of Cincinnati, Ohio, spoke on

THE RADICAL CURE OF HERNIA,

giving a brief history of the various operations proposed, and the present most approved plan of operating.

PROFESSOR WEBSTER, of New York, followed with remarks upon

ACUTE GLAUCOMA,

intended to assist the general practitioner in the diagnosis and preliminary treatment of this disease.

PROFESSOR HOOPER, of Boston, then gave an address on

MODERN SURGICAL METHODS OF TREATING OBSTRUCTIVE DISEASES OF THE NOSE AND NASO-PHARYNX.

At the Evening Session PROF. PAUL F. MUNDÉ, of New York, spoke on

SYMPTOMS AND TREATMENT OF FIBROIDS OF THE UTERUS,

in a very plain and practical manner.

PROFESSOR FIELD, of Newton, Mass., read an essay on

SULPHONAL,

giving his experience with the drug.

The Society then adjourned until Friday morning, August 2d, at nine o'clock, when PROFESSOR PARISH, of Philadelphia, spoke upon

ANTISEPTIC OBSTETRICS,

which elicited a lively discussion.

PROFESSOR COWLES, of Somerville, Mass., closed, speaking on the

MECHANISM OF INSANITY.

All the papers and addresses were able and of a practical character; and all present felt that the meeting had been a great success, and one that no member of the societies represented could afford to miss. The thanks of the societies are due Professors Frost and Smith, of Hanover, for their kind offices in arranging for the meeting and the pleasure of the members. A similar meeting is hoped for next year.

Recent Literature.

Diseases of Women. By DR. F. H. DAVENPORT. Octavo, 311 pages. Philadelphia: Lea Bros. & Co.

This book has two objects: in the first place, to give the student clearly, but with considerable detail, the elementary principles of the methods of examination, and the simpler forms of treatment of the most common diseases of the pelvic organs; and in the second place, to help the general practitioner to understand and treat the gynecological cases which he meets with in the course of his every-day practice. It does not consider the operative part of gynecology, neither does the author intend it to be anything more than the most elementary treatise on the subject.

It is written in a most pleasing style and the reader will find it difficult to put it aside until he has perused every page. We recognize the work of Dr. H. P. Quincy in many of the illustrations; and the clearness and accuracy of this part of the book greatly enhance its value. We do not remember to have seen elsewhere so good a description and perfect illustration of the Sims position.

We have never before seen any exact rules given for the measurement of the vagina for the adaptation of uterine supports; which are here clearly set forth, more particularly in regard to the posterior malpositions. It is our opinion that many of the more elaborate treatise on gynecology would do well to incorporate this chapter in their future editions.

Every gynecological student would do well to preface his course of study by reading this book, and every general practitioner should possess it, if alone for the chapter treating of uterine displacements, the fittings of pessaries, their introduction and care.

The classification of some of the subjects into chapters of symptoms, as amenorrhœa, dysmenorrhœa and menorrhagia, is entirely admissable in this volume. We grant this division has many advantages to the student: we should, however, take decided exceptions to it if the work were a more systematic treatise on gynecology, believing as we do that the only proper division of such subjects is that based on the pathological process which creates such symptoms.

We would suggest, in the next edition, the correction of the following misprints: On page 196 the substitution of "R," for "H" in the name of Dr. J. R. Chadwick; and on page 280, third line from the bottom, the substitution of "hæmostatic action" for "cauterization." The negative pole only has the power of cauterization." The paper, printing and general style of the book is the best, which is what we have a right to expect coming from the house of these well-known publishers.

We can heartily recommend this volume to all interested in the subject of gynecology.

— Mr. Francis H. Underwood, late United States Consul at Glasgow, has found a subject which he considered important enough to make the theme of an official report, in the diet of the poor of Glasgow. It seems that some time ago these people abandoned oatmeal, the traditional staff of life in Scotland, in favor of white bread and tea. This exchange was, according to Mr. Underwood, a most unfortunate one for their physical well-being. To it he ascribes the bodily degeneration and especially the deformities which are very common among the people of that city.

— A source of arsenical poisoning has been described in the columns of the *Lancet* by Dr. McClure, in Indian muslins. A patient of his suffered from arsenical poisoning, and all attempts to trace how the poison entered her system failed, until it was found that for nearly two years she had been working among Indian muslins, tearing them up and making them into covers for sofa-cushions, curtains, and many kinds of home draperies. The muslins were examined, and found to contain arsenic. The patient was removed from her muslins, and rapidly recovered.

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FRENCH INTERNATIONAL CONGRESS FOR THE SUPPRESSION OF ALCOHOLISM: REPORT OF THE SENATE COMMISSION.

IN the report of the above-named Congress, whose sessions were lately held in Paris (from July 29 to August 1, 1889), the old and familiar statement again appears from the official statistics of different European countries, as presented by the referee, that criminality and mental alienation follow a march parallel with the consumption of alcoholic beverages.

The question was discussed whether the number of places where liquor is sold influences the prevalence of drinking usages, and it was shown by figures, that the greater the number of dram-shops in a given locality, the larger the proportion of inhabitants that become addicted to intemperate habits. So plain did this appear, that one of the speakers (Dr. Drysdale, physician-in-chief to the Metropolitan Free Hospital, London), gave as his opinion that one of the best means for repressing the abuse of ardent spirits was to diminish the number of liquor-shops. This view was, however, combated by M. Causderlier, who declared that this measure had not been successful in Holland, where some years ago, the number of drinking-saloons was greatly reduced, and where alcoholism, insanity and criminality had remained the same as before the application of this restrictive measure. With this declaration, M. Milliet, Director of the Statistical Board of the Swiss Confederation, and M. Iscovesco, of Moldavia, agreed. Both these speakers stated that in their respective countries there had been governmental restrictions of the sale of intoxicating drinks, the number of retail shops having been reduced to a certain maximum per canton; in none of these districts had there been any sensible abatement in the evils of alcoholism. It was, however, thought by the majority of those present that the restriction of the number of dram-shops was a step in the right direction, and that high license (*augmentation de la patente*) was a measure calculated somewhat to repress drinking habits. We fail to notice that any more rigorous means of repression were proposed.

In this connection it is interesting to recall to mind the report a short time since presented to the French Senate by a commissioner appointed by that body to inquire into the consumption of alcohol in France, as much from the point of view of the public health and morality, as from that of the national exchequer. It appears from this report, that drinking usages in France have been lamentably on the increase the past fifty years, the average consumption of alcohol per head having quadrupled. Thus, in 1831, it was one litre per head; in 1884, the figure was four litres. The use of ardent spirits, moreover, has steadily gained on the wine-drinking habit, distilled liquors having largely superseded the fermented product of the grape. This is especially so in localities where, owing to the phylloxera, the vine-growing industry has failed.

The commission shows by unimpeachable figures that in those regions where distilled liquors are the habitual intoxicants, the evils of drunkenness attain their maximum, while comparatively little of such abuses is seen in districts, unfortunately too few, where the native wines constitute the popular beverage. It has further established the trite fact "that the number of crimes and offences against good morals is exactly in ratio with the consumption of alcohol in each of the seven great divisions of France." Alcoholism also "produces still other more deleterious effects, which effect the vital force of the country." "We refer," says the commission, "to the influence which the exaggerated consumption of alcohol (and we mean especially those forms known as ardent spirits or distilled liquors), has on the human constitution; it being a fact that the health of children almost always suffers from the alcoholic excesses of the parent. We may attribute, in part, the phenomenon of the continued diminution in our population, so noticeable in many parts of our territory, to the increase in the consumption of alcoholic liquors. In Normandy, for instance, the mortality of young children is frightful, and if the use of ardent spirits is not the sole cause of the lessening of the population in this country and in certain departments (Jura, Basses-Alpes, Lotet-Garonne, etc.), it certainly contributes to the increase of mortality, as well as to the physical enfeeblement of the race."

The commission next proceeds to show that the number of accidental deaths and suicides has increased in the ratio of prevalence of habits of intemperance, and that the proportion of cases of mental alienation due to alcohol has been steadily augmenting. "From 1,496, which was the total number during the quinquennial period of 1861–1865, the number of insane whose mental disease was due to alcohol in the forty-six departmental asylums, has gone on increasing, and from 1881 to 1885 had attained the figure of 7,387; in other words, the proportion of insane whose affection was due to alcoholism, in 1861 was eight per cent. of

those admitted to the asylums; it rose in 1885 to sixteen per cent!"

Similar facts are given with regard to the perpetration of crimes, but we have not space for these statistics, though of interest to every advocate of social reform.

BACTERIA IN MILK AND ITS PRODUCTS.

DURING the past year investigations on the bacteria of milk have been carried on in the laboratory of Storr's School Agricultural Experiment Station, under the direction of H. W. Conn, Professor of Biology in Wesleyan University, and we deem the subject of sufficient medical importance to call attention to some of the more interesting results, which have already been published in the bulletin of the station for July.

It has been found that milk is a medium in which bacteria grow with the greatest readiness. Some thirty or forty species were found floating in the air in the vicinity of the station. All of these were to be found in cream. Although they grew readily in milk yet cream seemed to be a better medium; probably because it kept longer without putrifying, and thus allowed some of the slower growing species time to develop. Butter is not so good, apparently from a deficiency of albuminous matter. The sweetest butter always contains some bacteria; when they become numerous, the butter becomes tainted.

Milk when first drawn from a healthy cow is free from bacteria; but the short exposure to the air in the act of milking is sufficient to contaminate it. Of eight sterilized tubes having milk drawn directly into them from a carefully washed teat by clean hands, and each tube then plugged with sterile cotton, seven became sour within a few days, and were found to contain many bacteria. The eighth remained sweet for a long time, yet it eventually also changed. Ordinarially, however, the number of bacteria in the air is of little importance compared to those from unclean vessels, which are the great source of infection. In ripened cream each drop has been found to contain from 10,000 to 100,000 bacteria (more of the larger number), and of about thirty species.

Two or three of the species usually found in milk are characteristic. Of these one, the bacillus acidi lactici, produces the ordinary souring of milk. Another, the oidium lactis, grows rapidly, yet seems to produce no important change in milk. The first is always found to be very abundant in the air in warm weather, but at times during a cold winter it is almost absent. Then milk could be exposed in a perfectly clean vessel to the open air for two weeks without going through the characteristic change of souring, yet it would finally curdle with a peculiar odor of decay.

Considered as to their mode of action, four different classes of bacteria were met with in milk. Some induced, at ordinary temperature, the change commonly known as souring. Some others would grow rapidly at such a temperature, but would produce like results only at some higher temperatures. Others would not decompose the milk sugar with the formation of acids and curds at all. but would leave the milk fluid, and sometimes decidedly alkaline, still others though making curds, would produce no acid, but make the milk alkaline instead. The larger number of the species, however, produce both acid and curds at some temperature.

The manner of curdling was found to differ greatly, in some cases a hard curd with a clear whey was formed; in others the curd has no clear whey separated from it, while in other cases the whole milk is turned into a semi-gelatinous mass. With some bacteria the curd is easily broken or cracked, while with others it is very tenacious, sticky and slimy. Sometimes the curd was dissolved in a few days, the milk becoming a clear transparent fluid. In these instances the curd seemed to undergo a change similar to digestion, that is, conversion into peptones.

A characteristic odor was also given off, which differed widely with the varying species of bacteria, smelling like sour bread, soft-soap, salt mackerel, pigs, or a barn-yard, and often of putrefaction.

In so-called ripened cream, bacteria in almost inconceivable abundance are always to be found. The more important results of the process in the cream are the souring, the decomposition of the albuminous matter present, and the development of the desirable flavor. The decomposition of the entangling fibrin liberates the fat globules, whereby their collection together by churning is greatly facilitated. A butter made from such a cream may keep the longer in that it is more free from the albuminous matter necessary for the growth of bacteria, although it would contain a greater number than a sweet-cream butter would in the beginning.

The use of sal-soda in washing, and of "live steam" in the after-drying of milk vessels are of great practical importance, in that the former can thoroughly remove both the fat and curds left from the milk, while the latter will effectually sterilize anything which may be left.

IS THERE AN ELIXIR OF LIFE?

IT is the silly season, and it is perhaps not unnatural that the daily press should have made the most of Brown-Sequard's alleged discovery (see this journal, present volume, page 49), and country and metropolitan newspapers have gravely and comically given the announcement to their readers, with more or less comment and elaboration thereon. As for the attitude of medical journals — we are certain that but for the reputation of Brown-Séquard, very few would have noticed the "discovery."

A correspondent of one of the newspapers asks, "Is an elixir of life possible?" And the editor occupies a column with a learned disquisition on the subject, in which he shows more knowledge of mediæval lore than of sound physiology. But the subject is being

taken up by charlatans and quacks, and is capable of doing mischief.

The sooner the general public, and especially septuagenarian readers of the latest sensation understand that for the physically used up and worn out there is no secret of rejuvenation, no elixir of youth, the better. There is no animal or vegetable product, from whatever animal or whatever gland, and however appropriated by the senile organism (by ingestion or injection), that can put back the march of the fell destroyer by one day — except, indeed, so far as it acts as a vital stimulant or nutrient, and how can any stimulant or nutrient undo the effects of atheroma, fatty degeneration, senile atrophy!

We hope we may soon hear the last of Brown-Sequard's disgusting advice to old men, and we cannot refrain in this connection from reiterating the well-known physiological truths: (1) That there is no proof that the secretion of the reproductive glands is the vital fluid *par excellence*, or that its loss is *per se* a cause of enfeeblement; (2) that all artificial excitation of the reproductive apparatus is debilitating, especially to the aged; (3) that the exhaustion which follows sexual orethism is due, not to the loss of a secretion, but to excitation of the nervous system.

MEDICAL NOTES.

— Dr. Henry C. Coe, has been appointed Professor of Gynecology in the New York Polyclinic, to fill the vacancy made by the death of Dr. James B. Hunter.

— The Trustees of the Cook County Hospital, Chicago, are reported to have provided accommodations for the treatment by the Pasteur method, of patients suspected of hydrophobic exposure.

— An unusual prevalence of typhoid fever is reported in the southern district of Chicago, which is attributed to the condition of the drinking-water. The initial cases of the epidemic appeared a few days after a big storm which flushed the sewers, and, it is said, sent their contents out into the crib in the lake.

— It is announced by foreign exchanges that the arrangements for the International Medical Congress in Berlin next year, which opens probably on August 6th, have been confided to Professors Virchow, von Bergmann, and Waldeyer. Invitations have already been extended to all German medical societies.

— The following interesting account of how a boy was wounded in a very critical place, and the injury was shrewdly diagnosticated and wisely treated by a medical student, comes to us in the daily press. We suppress only names.

"The boy, aged fourteen, had been fooling with another lad, aged about sixteen, who was chasing him with an open knife, and upon coming up with him, gave him a cut about six inches long by one and one-half inches deep, extending from a point opposite the upper portion of the sanctum, diagonally across the left ham, severing the glutacus maximus and exposing the glutacus minimus. Mr. ——, a student at —— Medical College, stitched the wound to the entire satisfaction of his father, who witnessed his labors. Fourteen stitches were found necessary to close the same."

— The *Chicago Herald* pictures for its readers the "Orton Madstone, which has wrought untold good to humanity. It is estimated that no less than one hundred people have been saved from horrible death through its virtues." It was found by a colored preacher in an Indian mound, was bought by a white boy for a jack-knife, and then started on its career of beneficence.

— The *New York Sun* says that twelve medical students found a suite of rooms on the top floor of an east side building, which they divided into sleeping apartments and study rooms. They were comfortably housed and excellently, though plainly fed, at a cost of $3.33 each, per week. They exchanged among themselves the costlier books of reference necessary for their studies, and organized themselves into a society. Rigid discipline was maintained, and a duty was prescribed for every hour of the day. In the evening and early morning they were regularly quizzed by one of their number specially selected each week for that purpose, upon the lessons for the coming day, and the spare hours were devoted to study and review. Among the members there were three honor men in the examinations, last spring, and there promises to be several more of the same class at the end of the winter's session.

BOSTON AND NEW ENGLAND.

— The conductors of the Old Colony Railroad are, we learn, to be given lessons in removing cinders from the eyes of passengers.

— All past house-officers of the Boston City Hospital, will remember Miss Rose McCormack, the head nurse in Ward B, and will be interested to know that on the 11 inst., she completed her twenty-fifth year as nurse at the hospital. She received a purse and many other gifts from the trustees and physicians of the hospital in recognition of her good work.

— A waitress at a restaurant in Bath, Me., was taken with some sort of a sore throat, and the fellow-boarders suspecting the disease might prove to be something which would lead to an unpleasant quarantine, urged that no doctor be called. After passing through the crisis of the disease she resumed her work at the restaurant, and was discovered distributing the exfoliation of scarlet fever among the 135 boarders.

— The executors of the will of the late Sidney Bartlett has announced the following distribution of the fund of $100,000 bequeathed to the charitable societies of Boston:

Museum of Fine Arts	$10,000
Massachusetts General Hospital	10,000
Kindergarten for the Blind	10,000
Massachusetts Institute of Technology	10,000
Massachusetts Charitable Eye and Ear Infirmary	5,000
Boston Asylum and Farm School	5,000
Boston Provident Association	5,000
Children's Hospital	2,500

Massachusetts Infant Asylum	2,500
House of the Good Samaritan	2,500
Home for the Aged Poor	2,500
Massachusetts Society for Prevention of Cruelty to Children	2,500
Boston Industrial and Appleton Home	2,500
The Sea Shore Home	2,500
Home for Aged Men	2,500
Home for Intemperate Women	2,500
Washingtonian Home	2,500
Boston Young Men's Christian Union	2,500
Free Hospital for Women	2,500
Children's Aid Society	2,500
Associated Charities	2,500
Society for Relief of Aged and Destitute Clergymen	2,500
Industrial Aid Society	2,500
West End Nursery and Children's Hospital	2,500
Convalescent Home	2,500

NEW YORK.

— Dr. George B. Upham, one of the oldest and best-known physicians of Yonkers, died August 9th.

— The American Dental Association, recently in session at Saratoga Springs, adjourned August 9th, after electing the following officers: *President*, M. W. Foster, of Baltimore; *Vice-President*, A. W. Harlan, and J. D. Patterson; *Recording Secretary*, George H. Cushing; *Corresponding Secretary*, Frederick Levy; *Treasurer*, A. H. Fuller. In the Association are now combined the Dental Association, the Association of the Dental Faculties, and the Association of State Dental Examiners; and the most important work accomplished at the meeting was the adoption of a resolution that no college should be represented in the Association that did not comply with the regulations established by the National College Association of Dental Faculties, prescribing a course of instruction of not less than three yearly terms of at least five months each. The next meeting will be held at Excelsior Springs, Mo.

Miscellany.

A CASE OF ACTINOMYCOSIS.

A CASE of actinomycosis has recently been under the care of Drs. Kneer and Conrad, of New York, with Dr. F. Lange in consultation. The patient, a German machinist, began to complain of pain and soreness in the right hepatic region in February last. The trouble having continued for some time without relief, exploration was determined upon, and this showed the presence of pus, which under the microscope was found to contain the actinomycis in abundance. One characteristic feature of the symptoms was a continuous high temperature. Injections first of boracic acid and afterwards of bichloride of mercury (1 to 2000), were made from time to time, in the hopes of interfering with the growth of the fungi, and the bichloride seemed to have the effect of bringing down the temperature considerably. Finally, however, pyæmia set in and the patient was carried off by an attack of pneumonia. At the autopsy the destructive effects of the fungus were found to be well-marked. The actinomyces appeared to have first attacked the intestinal canal and then the liver, which weighed nine and one-half pounds, and was studded with myriads of them. The greater part of the left lobe was in a gangrenous condition.

THE TREATMENT OF TABES BY SUSPENSION.

BERNHARDT (*Deutsch. Med. Wochenschr.*, 1889, No. 21, summarized in the *American Journal of the Medical Sciences*), has, during the last quarter of a year, treated 19 patients with about 200 suspensions. Most of these were tabetic patients, some of whom had received more than 20 suspensions, others between 15 and 20. By all, even the very ataxic, the treatment was well borne. Apart from the beneficial psychic effect on the patient of a new method of treatment there was an indubitable improvement in nearly every case. Some, it is true, stated that they felt no better, but in the majority Bernhardt recorded amelioration of the lancinating pains, increased ability to walk, diminution of the ataxia, increased vesical power, in some cases a decided influence on the lost sexual power, and in nearly all an improvement in the general condition.

He warns, however, against viewing this plan of treatment as a panacea for such a chronic disease as tabes is, and says that it has not yet been used long enough to permit of a final judgment on its value. It is certain, however, that it is a valuable means, though not for the healing of tabes, yet for the amelioration of many of the most distressing symptoms of the disease.

PHTHISIS AMONG THE SIOUX INDIANS.

DR. TREON, Agency Physician among the Sioux Indians, has an article on the above subject in the *Cincinnati Lancet-Clinic* for August 10th in which he says that during the three years that he has been physician at Crow Creek Agency he has entered in the Medical and Sanitary Record of his office 73 cases of consumption, 35 males and 38 females; of these 68 have died, 33 males and 35 females. Eight of this number were under five years of age. This mortality out of a population of less than 1,200 is evidently very high. The great prevalence of phthisis is attributed by the author to poor ventilation of dwellings, to the use of the sweat-bath, and to the use of tuberculous meat, uncooked. Syphilitic phthisis is uncommon; and indeed he states that, as a rule, the Sioux are now quite free from primary syphilis.

These causes, while in a large degree plausable, do not seem quite to accord with the further observation of the unfavorable effect of transportation to civilization, for example to the Hampton Institute.

Dr. Treon says, in this connection; "Sea air, in my experience, has not been beneficial to these people; but, on the other hand, rarely ever fails to hasten the fatal end in this disease. This has been satisfactorily demoustrated by sending the children of these people to Hampton, Va., to school. There are comparatively few of them who do not develop while there this disease, notwithstanding they are examined and supposed to be the healthiest subjects among them. So disastrous has the result of the change been that in many instances the people are unwilling to send their children there to be educated. I have opposed it, but for no other reason than that the change is too violent and results badly for them. I believe I speak the truth when I say there is not a sound one among them. Out of forty boys and as many girls examined at the Immaculate Conception Mission School, at Stephan, Dak., last fall — whose ages ranged from

seven to seventeen — forty-nine of them had dulness over the apex of one or both lungs, and twenty of them had enlarged lymphatics or scrofulous sores on their bodies."

THE REPETITION OF DISEASED PROCESSES AND ESPECIALLY RELAPSES.

A PAPER by Dr. H. Senator on the above most important and little-understood subject occupies the leading place in the *Berliner Klin. Wochenschrift*, No. 24, 1889. From a translation and summary of its conclusions contained in the *Edinburgh Medical Journal* for August, we make the following extract:

"There are recrudescences, consecutive or after fevers, relapses, and genuine second or more attacks. The recrudescence appears before the original sickness has reached its normal end, and therefore not after, but during the illness, and really represents only a stadium, an exaltation or repetition of isolated morbid phenomena (for example, in the acute exanthemata the rash is renewed) which have not at once reached their full development, but unfolded themselves in a fragmentary manner, and with short pauses as it were, probably because the morbid poison has entered the circulation, not in one dose but in several.

"The 'Nachfieber,' on the other hand, appears *after* the normal course of the original disease has been reached. It is a transitory feverish attack which does not present the characteristic phenomena of the original illness; more or less of fever and feverish disturbances, but without specific symptoms.

"Relapse or recidive and a second attack have not even yet been sufficiently contradistinguished. We commonly say that every renewal of the disease is owing to the renewed operation of the noxious agent which caused it at first, and in the case of infectious disease we think that a new infection has taken place from without. Even Griesinger, who belongs to our time, and was at the apex of science, considered that relapses of intermittent fever or abdominal typhus arose only through new infection from without. This view is now quite given up, save with perhaps one exception. We now generally say that if a sickness appears in a shorter or longer period after a sickness of the same nature has been passed through, and if it can be demonstrated that this second attack is the result of the penetration of the morbid germs from without, we speak of a repetition of the disease, not of a relapse.

"Gerhardt has given us a clear view and a rule by which to go in the acute infectious diseases at least. True relapses, he says, appear within a time which, when reckoned from the first outbreak, does not much exceed the incubation period plus the duration of the illness; they behave thus as if the infection from which they have sprung had been acquired during the course of the first illness; as if this has given no immunity and as if the morbid germs again ran through their developmental phases in the same body. Now, in measles, the incubation period is pretty constant — ten days — that is, till the outbreak of the initial phenomena. These usually last three days, and in the other four the rash is out and over, and desquamation beginning; so we have seventeen days for incubation and duration of illness. In Gerhardt's view we could only speak of a measle relapse, if the disease recurred about seventeen days from the beginning of the first attack. If one sticks to this it is astonishing how narrowly limited is the occurrence of relapse, and how cases which are thoughtlessly so called are not so in reality, but actually new attacks, standing in no other relation to the first illness.

"But it is questionable if even relapses, so limited, are caused by new infection from without, and whether this is their only mode of origin. Most infectious diseases, and specially the acute exanthemata, afford a certain amount of protection from a second attack, and so much the surer the shorter the time after the first illness. One may therefore reasonably doubt whether during the progress of such a disease a new infection in Gerhardt's sense could take place. Surely relapses would be much more frequent than they actually are. Every sick man could reinfect himself from his own atmosphere, which certainly infects others.

"Just as in the infected organism at a very early period, and before the disease has run its course, the poison can be efficacious as regards infection, so it can be efficient as regards its conferring of immunity. It is not impossible, but happens seldom, that during the course of an infectious disease a new infection may take place from without, but essentially this is not different from a repetition of the disease, it may be after years; but, at the same time, in common speech we call the reinfection happening after a short time a relapse, and later on a renewal of the disease.

"But there is another mode of origin of relapses: it is this. The infective germ is not incorporated anew, but a part of the original poison remains latent in the body, and only after the original sickness has run its course does it become efficacious for harm. This idea has lately received substantial confirmation from the fact that Alb. Frankel found, in an abdominal abscess of a man who had gone through typhoid with a relapse five months after the first outbreak of the disease, typhoid bacilli living and capable of development. Ebermaier has made a similar observation in a tibial periosteal abscess of a typhoid convalescent who had been free of fever for several weeks. Valentini found the same in two cases — one of periosteal abscess and one of empyema. May not the inflammatory foci which frequently 'complicate' typhoid not be of the same nature? On the ground of those observations, it is not difficult to suppose that the bacilli may again find their way into the circulation and anew excite typhoid symptoms, even abdominal ones, were they to arrive into the lymph apparatus of the bowel."

Correspondence.

CARBONIC OXIDE *VS.* ELECTRICITY.

MR. EDITOR, — A brief editorial in your issue of last week, comments upon the execution of the death penalty by electricity. Within the past year or more, considerable attention has been given to the question of substituting a better method of execution in place of the conventional mode of dangling the criminal at the end of a rope to the amusement (?) of a gaping crowd of privileged spectators.

The only substitute which has received serious consideration is electricity. Experiments have been made, and it would appear from the results that there are serious hindrances to the adoption of this subtle agent. Meanwhile it would be advisable to inquire whether there are no other agents, which are preferable, provided that a change upon the present mode is desirable.

In carbonic oxide we possess such an agent which has the property of destroying life rapidly and painlessly, when properly administered. Dr. B.W. Richardson, of London, several years since brought this method to public notice for the destruction of small, domestic animals, such as dogs and cats. He stated in an article entitled "The Painless Extinction of Life," that 7,000 such animals had thus been destroyed in London in a few months previous.

This gas may be made from charcoal at small cost, or it may be still more cheaply obtained from the street-mains of any coal or water-gas company.

Water-gas would be far preferable to coal-gas for this purpose, since it contains from four to five times as much carbonic oxide as the latter, and would be proportionably more rapid and fatal in its action, as the increased mortality from this cause in all large cities where it is used, and the inquiries reported to the Legislature of Massachusetts in 1884, have sufficiently demonstrated.

An atmosphere of 25 to 30 per cent. of carbonic oxide, as in the case of water-gas, or still better, one of 50 per cent. or more as may be made from charcoal, would undoubtedly destroy human life in less than two minutes, and without pain.

The writer has used a mixture of about seven per cent., with air, with perfect success in destroying small animals in from one to one and a half minutes without the appearance of pain.

The apparatus for an execution must be of the simplest and most inexpensive sort. A tight, wooden box, three feet square and seven feet high (63 cubic feet), a tightly fitting door, an aperture for admitting a gas pipe of liberal size (two inches in diameter), for applying a rapid supply of gas under ordinary pressure, and another smaller aperture to allow of expulsion of the air; the pipe to be connected with a steel main of larger size. If a higher percentage of carbonic oxide, or the pure gas is desired, a small charcoal furnace would be required for generating it, and storing it temporarily, as in the case of Dr. Richardson's lethal chamber.

Of this method, Dr. Richardson says: "Compared with other modes of extinguishing animal life, such as hanging, drowning, poisoning by prussic acid, shooting, stunning, the lethal method stands far ahead on every ground of practical readiness, certainty, humanity."

The advantages are:

(1) Painless death.

(2) Rapid action. In this respect its action should not be confounded with the slow action of small percentages of gas, such as is illustrated by the accidental deaths often occurring in hotels. These almost invariably happen by exposure to the gas escaping from a mere pinhole or slit in a gas-burner, which consequently forms but one per cent., or a fraction of one per cent. of the air of the apartment, and destroys life slowly.

(3) Economy. The cost of a wooden box or chamber, such as I have described is but a trifle, and the expense of 75 or 100 cubic feet of gas consumed is scarcely worth mentioning, when compared with the expensive apparatus required for an electrical execution.

A writer of a recent sensational article in a Boston daily, commits a curious blunder in proposing carbonic acid or Co_2 for the same purpose. This gas has more or less toxic qualities, undoubtedly, but when compared with carbonic oxide, it is weak and inefficient.

Very truly yours,

S. W. ABBOTT, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 3, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	850	395	31.80	14.52	22.80	1.66	4.32
Philadelphia	1,040,245	442	226	23.23	9.43	15.41	3.91	1.48
Chicago	830,000	—	—	—	—	—	—	—
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	203	100	27.93	9.31	23.92	1.47	.98
St. Louis	450,000	—	—	—	—	—	—	—
Boston	413,567	238	121	26.88	11.34	20.16	2.52	3.36
New Orleans	250,000	137	45	24.82	7.29	16.79	.73	1.46
Cincinnati	225,000	98	—	21.42	12.24	6.12	4.08	7.14
Washington	225,000	112	52	31.15	9.79	23.14	1.78	2.67
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	—	—	—	—	—	—	—
Charleston	60,145	53	22	18.87	17.01	17.01	1.87	—
Portland	40,000	17	10	52.92	5.88	41.16	5.88	—
Worcester	78,292	36	22	50.04	2.78	36.14	2.78	—
Lowell	71,518	44	26	47.67	15.89	40.86	—	4.54
Cambridge	65,552	32	15	43.82	12.52	31.25	3.13	9.39
Fall River	62,647	46	31	62.93	6.51	54.25	4.34	2.17
Lynn	53,334	23	—	26.10	11.75	26.10	—	—
Springfield	40,731	13	6	38.45	—	30.66	—	7.69
Lawrence	40,619	26	16	42.35	—	23.10	11.15	—
New Bedford	37,253	27	18	20.60	—	22.20	—	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	23	11	47.85	4.35	34.80	—	8.70
Brockton	28,813	10	8	50.00	—	20.00	10.00	20.00
Chelsea	28,167	17	8	23.52	5.88	23.52	—	—
Haverhill	26,058	8	2	12.50	—	—	12.50	—
Taunton	25,170	—	—	—	—	—	—	—
Gloucester	24,263	4	1	—	25.00	—	—	—
Newton	21,553	—	—	—	—	—	—	—
Malden	19,774	8	4	50.00	12.50	25.00	—	25.00
Fitchburg	17,534	7	5	28.56	14.28	28.56	—	—
Waltham	17,332	9	2	11.11	33.33	11.11	—	—
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	13	7	30.76	—	23.07	7.69	—
Quincy	13,728	7	6	28.56	14.28	14.28	—	—

Deaths reported 2503: under five years of age 1149; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas, and fevers) 742, consumption 280, acute lung diseases 161, diarrhœal diseases 545, diphtheria and croup 82, typhoid fever 55, whooping-cough 26, malarial fever 16, cerebro-spinal meningitis 10, scarlet fever 8, measles 7, erysipelas 3. From whooping-cough, New York 14, Philadelphia 5, Washington and New Bedford 2 each, Baltimore, Portland and Worcester, 1 each. From malarial fever, New York and New Orleans 6 each, Philadelphia and Baltimore 2 each. From cerebro-spinal meningitis, New York 3, Philadelphia, Boston, Washington, Worcester, Lowell, Salem, and Quincy 1 each. From scarlet fever, Philadelphia 3, New York and Lawrence 2 each, Boston 1. From measles, Cincinnati 4, New Orleans 2, New York 1. From erysipelas, Baltimore, Washington and Fall River 1 each.

In the 28 greater towns of England and Wales with an estimated population of 9,555,406, for the week ending July 27th, the death-rate was 21.0. Deaths reported 3850: infants under one year of age 1432; acute diseases of the respiratory organs (London) 160, diarrhœa 682, measles 91, whooping-cough 71, diphtheria 67, scarlet fever 57, fever 31.

The death-rates ranged from 10.7 in Huddersfield to 48.6 in Preston; Birmingham 22.0; Bradford 18.9; Hull 25.3; Leeds 26.1; Leicester 23.6; Liverpool 26.3; London 18.6; Manchester 25.1; Newcastle-on-Tyne 25.1; Nottingham 18.0; Portsmouth 21 8; Sheffield 23.4.

In Edinburgh 15.1; Glasgow 20.3; Dublin 24.8.

The meteorological record for the week ending Aug. 3, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps: –

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.		Velocity of Wind.		State of Weather.[1]		Rainfall.	
Saturday, Aug. 3, 1889.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...28	30.02	62.0	66.0	59.0	89	95	92.0	N.	S.E.	2	4	O.	O.	2.00	.06
Monday,..29	30.02	72.0	84.0	59.0	95	83	89.0	S.W.	S.W.	3	20	O.	O.	5.50	.49
Tuesday,..30	30.11	78.0	85.0	72.0	87	93	90.0	S.W.	S.W.	12	14	O.	O.	9.40	.15
Wednes. ..31	30.20	78.0	85.0	70.0	93	86	90.0	S.W.	S.W.	12	10	O.	O.	8.25	.76
Thursday,. 1	30.14	76.0	80.0	71.0	88	91	90.0	S.W.	S.W.	6	11	O.	O.	8.20	1.50
Friday,.... 2	30.14	78.0	84.0	72.0	88	85	86.0	S.W.	S.W.	12	15	O.	C.		.0
Saturday,. 3	30.00	74.0	78.0	69.0	89	91	90.0	S.W.	S.W.	12	9	O.	F.	3.45	.24
Mean for Week.	30.07		80.0	67.0			88.0							38.00	3.20

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 3, 1889, TO AUGUST 9, 1889.

By direction of the acting Secretary of War, leave of absence for seven days is granted Colonel ANDREW K. SMITH, surgeon. Par. 12, S. O. 178, A. G. O., August 3, 1889.

By direction of the acting Secretary of War leave of absence for two months on account of sickness, with permission to leave the Division of the Missouri, is granted Major ALFRED A. WOODHULL, surgeon. Par. 5, S. O. 178, A. G. O., August 3, 1889.

Leave of absence for two months is hereby granted Major JOHN H JANEWAY, surgeon, with permission to apply for an extension of two months. Par, 3, S. O. 52, Headquarters Division of the Pacific, July 29, 1889.

By direction of the acting Secretary of War, First Lieutenant WILLIAM B. BANISTER, assistant surgeon, is relieved from further duty at Fort Wingate, N. M., and will report in person to the commanding officer, Fort Grant, Arizona, for duty at that station, relieving Captain Arthur W. Taylor, assistant surgeon, who upon being so relieved, will proceed to Fort Wingate, New Mexico, and report in person to the commanding officer thereof for duty at that point. Par. 4, S. O. 178, A. G. O., August 3, 1889.

Leave of absence for twenty days on surgeon's certificate of disability is hereby granted Captain LOUIS M. MAUS, assistant surgeon, U. S. A., (Fort Porter, N. Y.) Par. 2, S. O. 173, Headquarters Division of the Atlantic, August 1, 1889.

By direction of the Secretary of War, Captain JOHN J. COCHRAN, assistant surgeon, now on duty at Fort Adams, R. I., will report to the commanding general, Department of the Platte, for temporary duty with troops enroute to and at the summer camp at Fort Robinson, Neb. Upon the completion of this duty will return to his proper station. Par. 10, S. O. 180, A. G. O., August 6, 1889.

OBITUARY. CHARLES ELAM, M.D., F.R.C.P.

THE death is announced, at the age of sixty-five, of Dr. Charles Elam, "first gold medallist" in medicine at London University in 1846. Dr. Elam was a voluminous writer, and among his more important works may be mentioned the following: "Medicine, Disease and Death; being an Inquiry into the Progress of Medicine as a Practical Art;" "A Physician's Problems;" "On Cerebria and other Diseases of the Brain;" and "Winds of Doctrine; being an Examination of the Modern Theories of Automatism and Evolution." He was also the author of treatises on "Moral and Criminal Epidemics," "Civilization," "Illusions and Hallucinations," "Liberty and License in Science," "The Gospel of Evolution," and "Man and Science," and of numerous contributions to the medical journals.

DEATH.

In New York, August 12th, Dr. Alexander B. Mott, aged 63.

BOOKS AND PAMPHLETS RECEIVED.

Accumulators and their Medical Use. By Robert Newman, M.D. Reprint. Philadelphia, 1889.

An improved Form of Relaxation Suture. By Dr. Newton Albert Powell, Toronto. Reprint, 1889.

Boston University School of Medicine, Seventeenth Annual Announcement and Catalogue. July, 1889.

Annual Announcement of the Louisville College of Dentistry, Dental Department of Central University, Louisville, Ky. Session of 1890.

The Annual Report of the Department for the Insane of the Pennsylvania Hospital, for the year ending April 22, 1889. Philadelphia, 1889.

The Physician's Leisure Library. The Treatment of the Morphine Habit. By Dr. Albrecht Erlenmeyer. Translated by E. P. Hurd, M.D. Detroit: George S. Davis. 1889.

Physiological Basis of Objective Teaching. By Marshall Calkins, A.M., M.D., Late Professor of Physiology and Microscopic Anatomy in the University of Vermont. 1889.

Anatomie topographique du Duodénum et Hernies Duodénales. Par Tonnesco. Volume in 8vo de 107 pages, avec 13 plates et 21 figures hors texte. Paris: Publications du *Progrès Médical*.

Two Suggestions for Improving the Operation of Excision of the Knee-Joint for Strumous Disease. By A. G. Miller, M.D., F.R.C.S. Ed., Surgeon in the Edinburgh Royal Infirmary. Reprint. 1889.

Census of Massachusetts, 1885. Prepared under the direction of Carroll D. Wright, Chief of the Bureau of Statistics of Labor. Vol. II., Manufactures, the Fisheries and Commerce. Boston, 1888.

Cerebral Localization in its Practical Relations. By Charles K. Mills, M.D., Professor of Diseases of the Mind and Nervous System in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. 1888.

Original Articles.

THE EFFECT OF THE CLIMATE OF COLORADO UPON PHTHISIS PULMONALIS, AS SHOWN BY THE ANALYSIS OF ONE HUNDRED RECORDED CASES.[1]

BY SAMUEL A. FISK, A.M., M.D., DENVER, COL.

FELLOW MEMBERS OF THE COLORADO STATE MEDICAL SOCIETY: — The time has come, which has been specified by the By-Laws and ordained by custom, for the Annual Address of your President, and it is my pleasure, as well as my duty, to comply with these demands.

For a long time the subject has been on my mind, and the selection of an appropriate theme has been a matter of considerable difficulty. On the one hand, I have been met by the decided objection in my own mind, to touching upon subjects that have already been so ably handled by my predecessors; and, on the other, by the desire of presenting something which would bear on its face some evidence of my own individual work and at the same time have a common interest for all.

With a view of meeting these requirements as well as I could, I have selected as the title of my address, "The Effect of the Climate of Colorado upon Phthisis Pulmonalis, as shown by the Analysis of One Hundred Recorded Cases."

In presenting this subject I feel that it should partake strongly of the flavor of having a common interest, for if there is any one thing in our surroundings that makes our work in our profession to differ from that of the thousands upon thousands of physicians, the country and world over, and which, moreover, is deserving of our closest attention, as men of some scientific attainments, it is and should be the question of the effect of this climate upon the human economy in conditions of both health and disease. It is a vast theme, fraught with no little scientific interest, affording scope enough for the ambitions of any one, and material enough for the work of a lifetime. In its broadest bearing it embraces much larger considerations than the one to which I shall limit myself, and yet, up to the present time, we of the medical profession have emphasized especially the effects of our climate in producing an arrest or cure of the disease commonly called consumption, for it has been in this direction that its effects have been most pronounced and conspicuous.

As individuals, there are and have been members of this Society who have devoted time and study to the analysis of the climate and to its effects upon this disease, and their published articles have attracted the attention of the profession generally, and have had the effect of bringing invalids of this class here by the thousands, and have resulted in the saving of thousands of lives. But, in order to give such investigations the weight that must always come from the approval of a body like our own, and, moreover, to relieve them from the elements of the personal equation which an individual's writing must always bear, this Society voted last year to entrust a consideration of this question to a "Committee of Collective Investigation," which should have power to solicit reports from the individual members of this Society and collate the same. The committee began its labors early, outlined its policy clearly, and have labored zealously, but they are not able to render any report, largely from lack of support from our own members.

It does not seem to me that in this matter there is any blame to attach to any one, nor, on the other hand, any cause to abandon our idea. This, our first attempt, should not be considered as a failure, nor should we be led to give over the project. It is one, it seems to me, which if carried out to its fulfilment, would stamp our body, in the minds of the profession the world over, as a really scientific body. Its results would be a real addition to medical knowledge to be quoted as often and spoken of as favorably as are the reports of the several investigation committees of the British Medical Association.

Let me, therefore, at this time and from this chair, urge upon you not to become disheartened, not to consider this first attempt as a failure, but rather to regard it as an experience, from which we are to profit, from which we are to devise other means by which the committee will meet with more hearty support from our members, and by which the members will find it easier to comply with the demands made upon them by your committee.

The object proposed is a mighty one, and the goal glorious. Let us push on to its achievement.

I, for one, made an attempt to comply with the request of your committee appointed a year ago, and started to collate my cases. It was not, however, until I undertook the matter that I had any comprehension of the amount of work involved, nor of the difficulty that would beset both a busy practitioner, in furnishing the data, and the committee in collating such data, if furnished. From my own experience I understand somewhat the difficulties that will beset us, for, as few as are the cases that I present as the basis of my conclusions, the task of getting them into shape is one that I doubt if I could have accomplished without the kindly aid of one of my medical students, whose services I wish to publicly acknowledge.

Out of this attempt on my part, and the understanding that the committee would be unable to make a report, grew the idea of presenting a summary of my cases at this time. In doing so I am as painfully aware as any of you can be, of the deficiencies. I regret that the number of cases is not larger, and that the time of their being under observation is not longer. They are selected cases, and do not embrace my total of recorded cases, nor, unfortunately, does my list of recorded cases contain by any means, all of the cases I have had under observation, for unless I have seen the patients at my office where my record-book was at hand, I have not been apt to take notes. But, in presenting even these few cases, I am consoled with the thought that the one thousand cases quoted by Dr. Williams in his book on "Pulmonary Consumption" are selected from the records of a busy practice of a specialist in a large city, and cover a period of twenty-two years; that my own shortcomings, as regards numbers and the time during which they have been under observation, are such as, I trust, will be remedied as years go on; that, after all, some valuable truths may be gleaned from even one hundred cases carefully recorded and conscientiously analyzed; and that I am taking what might be called "a step in the right direction," as regards the handling of this subject by the physicians that compose our Society.

[1] President's Address before the Colorado State Medical Society, at Denver, June 19, 1889.

The cases are selected, not with reference to the results being favorable or unfavorable to our climate, but because I have been able to see them frequently enough to judge somewhat of the effects of our climate upon their trouble, and to follow the progress of their disease.

Inasmuch as my only aim is to show the effect of our climate upon this disease, pulmonary consumption, it is evident that I could call to my aid only such cases as I have been able to follow for some time, so as to know whether they were benefited or injured by a residence in our climate, and to point out, if I can, the elements in these cases which tended to produce the one or the other effect.

I am not able to follow the classification of Dr. Williams in tabulating my results, for his first broad class of "well" patients I prefer to class as "much improved." I have seen, and had under my care, patients who have been pronounced well, or at least they have told me that they have been pronounced well, by other physicians, — not in this country, however, — and been dismissed as well from sanatoria, in whom cough and expectoration still persisted, and in whom there have been pronounced physical signs.

I have preferred to classify my list as

(1) Much Improved. This includes those spoken of by Dr. Williams as being able to follow their occupations without any recurrence of their former symptoms, and others, who, though still carrying some evidences of their disease, are able to pursue their occupations without any serious inconvenience. In the broadest sense they have all been much improved by their residence in Colorado.

(2) A second class I have called, Somewhat Improved. Here I have placed those who have shown improvement, — but not up to the first class. It embraces some who, after making very considerable gains in this climate, have considered themselves able to return to their homes. Others, who are in the chrysalis state, in process of formation for the first class. And still others, who, though improved in their condition on arriving in Colorado, and who, though able to work have, nevertheless, to use precautions and limit their exertions (Dr. Williams's second class).

(3) The third class, are the few who have not done well here, largely, I think, through some imprudence of their own, but be that as it may, they are actually in a worse condition than when they arrived.

(4) Those who have died. My first class numbers 50 % of all cases; my second, 17 %; my third, 7 %, and my fourth, 26 %. If now we make the broad distinction in these cases between those who have been benefited and those who have not been benefited by coming to Colorado, we can class the first two divisions as one, and the last two as one. From this we learn that 67 % of my cases have been benefited, and 33 % of my cases have not been benefited by coming to Colorado. That is, that benefit may be expected in two out of three cases that come here — taking cases as they run. This is not an altogether fair statement of the case, either, for of those in the second half I can recall a good many instances where some imprudence has made all the difference between progress and retrogression, where I think it is fair to say that an arrest of the trouble was sacrificed to some imprudence, in no way attributable to climatic influence, and not to be regarded as an effect of climate, — such imprudence, I mean, as an excess in exercise as, for instance, a very long horseback ride, or a fishing excursion, pitching quoits, or imprudence in returning to the East when it was not advisable, or, pneumonia contracted from taking a Turkish bath. Many of these cases have occurred in persons, who up to that time, were gaining, and whose prospects were encouraging, but as the result of their imprudence fresh troubles were lighted up, hæmorrhages induced, and conditions brought about from which they have never rallied. These remarks apply to nearly every one of my third list, and fully nine in the fourth. So that while I am willing to let the statement go, as shown by my cases, that 67 % of invalids that come to this climate gain by so doing, and that 50 % make marked improvement, I yet think that these figures might be somewhat increased in favor of the good influence of our climate, if only all patients would act cautiously and with discretion, which, unfortunately, they won't; and so, as I am analyzing figures, some results have to be classed as unfavorable to our climate, where in reality they are not.

Sex. — The question is often asked whether men or women do best in this climate. I do no not know that my figures will tally with the results of other physicians in this matter, for I find that only fourteen of my cases were women. Of these fourteen, six died, and and one got worse, making a percentage of 50 % who who were not benefited. Whereas of the men, twenty died and six got worse, a percentage of only 30.2 % who were not benefited. Of the remaining seven women, who were benefited, I find that six are classed with the much benefited.

These figures would seem to show that men do better than women in securing an arrest of pulmonary trouble in Colorado, and that so far as women are concerned it is an even chance as to whether they are benefited or not by coming to this State. Even here it must be remembered, however, that with the percentage balancing, a showing of 50 % on the positive side is really stronger in moral force than the 50 % on the negative, for the question arises, what might have been the results in the case of the seven who were benefited here, had they *not* come to Colorado.

Undoubtedly most women feel the separation from home friends more keenly than most men, and are less able to stand the effects of change of surroundings and conditions, than most men; so that these forces operate more adversely in the case of women than of men, which may account, to some extent, for the ratio of percentages given above. Of the six women who died, five died within six months after coming to Colorado, and the remaining one in a year. Moreover, there are other factors operating adversely in the case of most women, of which I shall have occasion to speak presently, most noticeably imperfect digestion, poor appetite, constipation, and irritability of nerve centres, all of which, in either men or women, are most potent factors for harm in cases of pulmonary consumption.

Age. — As regards the influence of age in affecting the results of a residence in Colorado on account of consumption, I find that, of my hundred cases,

3	cases were	under	20	years	of age.
53	"	from	20-30	"	"
32	"	"	30-40	"	"
8	"	"	40-50	"	"
4	"	"	50-55	"	"

Of the three under twenty years of age, all died. Of the fifty-three between twenty to thirty years of age,

29, or 54.7% are tabled as much improved.
6, or 11.3 are tabled as somewhat improved.
5, or 9.4 are tabled as worse.
13, or 24.5 are tabled as dead.

Of the thirty-two, ranging from thirty to forty years of age,

14, or 43.8% are tabled as much improved.
11, or 34.4 are tabled as somewhat improved.
2, or 6.2 are tabled as worse.
5, or 15.6 are tabled as dead.

Of the eight ranging from forty to fifty years of age,

5, or 62.5% are tabled as much improved.
1, or 12.5 is tabled as somewhat improved.
2, or 25 are tabled as dead.

Of the four ranging from fifty to fifty-five years of age,

2, or 50% are tabled as much improved.
1, or 25 is tabled as somewhat improved.
1, or 25 is tabled as dead.

All of which goes to show that the chances for doing well are better when the patient is over thirty years of age. This, however, is not at all due to the influence of climate, as a comparison of my results with those of Dr. Williams will show, for he writes:

"The influence of age and sex on the duration of consumption may be thus summed up:

"(1) The duration is longer in proportion as the age of the attack is later, the retarding influence of age being more conspicuous among males than females.

"(2) Among the females the time of the attack is on an average, earlier than among males.

"(3) The duration of the disease is shorter.

"(4) The age reached by the consumptive females is less."

Following out these suggestions, I find that in my table of deaths the average duration of life among the females after coming to Colorado was only 6.5 months, while with the men the average was 15.7 months; that with the females three were twenty years and under of age, while the same was true of only one man. It would seem from this, therefore, that the general law, as stated by Dr. Williams, is not varied much by the climate of Colorado, and that where a fatal result ensues, the duration of the disease is shorter in the female than in the male.

Heredity. — Fifty-two of the one hundred cases report some lung trouble in the family, distributed as follows,

One or both parents affected	25
One or both grandparents affected . .	7
Uncles or aunts affected	7
Brothers or sisters affected	13
	52

Of the twenty-five whose parents were affected,

10, or 40% were much benefited by coming to Colorado.
8, or 32 were somewhat benefited by coming to Colorado.
1, or 4 was made worse by coming to Colorado.
6, or 24 died after coming to Colorado.

Of those affected through grandparents,

5, or 71.4% were much benefited by coming.
1, or 14.3 was somewhat benefited by coming.
1, or 14.3 died.

The same figures and ratios hold true when the inheritance was less direct, that is, through uncles and aunts.

When brothers and sisters were affected,

3, or 23 % were much benefited by coming.
5, or 38.5 were somewhat benefited by coming.
5, or 38.5 died.

These figures go to show that in rather more than half of my cases there were some family predisposition (my percentage of 52 being in excess of Dr. Williams, where it was only 48.4 %) and that while, taking them as a body, 73 % were benefited by coming to Colorado, yet those did the best in whom the family predisposition was shown in grandparents, uncles and aunts, rather than in parents, brothers and sisters.

Hæmorrhage. — It has often been urged that high altitudes are not adapted to hæmorrhagic cases, and that, therefore, persons suffering with hæmorrhages should not come to Colorado. Let us see what lessons can be gleaned from my tables.

I find that there were forty-four cases who had had hæmorrhages, more or less severe, and more or less numerous. Of these forty-four cases I find that eleven or 25% had a recurrence of hæmorrhage in Colorado, which certainly does not uphold the statement, so often made, that this altitude is conducive to hæmorrhage. Two patients who never had hæmorrhage before coming here, had some in Colorado, and one died from the effects of his. In these cases, however, the cause was due to unusual exertion, and, indeed, many of the cases of recurrence can be traced to immoderate exercise. Of the forty-four hæmorrhagic cases I find that,

26, or 59.1% were much benefited here.
7, or 15.9 were somewhat benefited here.
2, or 4.6 were made worse.
9, or 20.4 died.

That is, 75% were benefited, and 25% grew worse or died. This certainly does not uphold the idea that Colorado is not good for hæmorrhagic cases: it goes to prove, very decidedly, the direct contrary, that such cases do admirably here.

Appetite, Digestion and Bowels. — These elements I have regarded as of the greatest importance in estimating the probabilities of my cases when they first come to me; and, taken with the indications furnished by the temperature, pulse and their ability to sleep, aid to form my prognosis quite as much as does the condition of the chest. For I have seen patients with consolidation, night sweats, constant cough and profuse expectoration, accompanied by loss of strength and flesh, and it may be with hæmorrhages, do admirably because they could eat, digest and sleep, whereas I have also seen others similarly affected go down rapidly because they could not eat nor digest what they had eaten, nor yet sleep. The following cases, though not filling all the requirements, will nevertheless serve as fitting examples of what I mean.

Miss ——, a maiden lady, about thirty-five years of ago, consulted me August 15, 1887. Her mother died of consumption at forty. A year previous to consulting me my patient caught cold, and in January, 1887, this was followed by night sweats, never had any hæmorrhage, but once or twice had spat a little blood. She had lost flesh, fifteen pounds from her average. She had a dry cough, accompanied by little or no expectoration. Her digestion was very bad, her appetite fair, bowels regular, and she slept poorly. The left apex was slightly dull, expiration was prolonged, and a few clicks were developed on cough. Pulse, 120;

temperature, 100°. This lady ran down rapidly, and in six months she was in her grave.

A couple of months later, namely, October 25, 1887, I was consulted by a man with the following history:

Dr. M——, age forty-three. Mother had consumption. Had pneumonia in spring of 1887, and coughed pretty constantly afterward. In August he had four copious hæmorrhages. When I saw him he had fallen off twelve pounds from his usual weight, and was expectorating a whitish mucus in moderate quantities. His appetite and digestion were first class, bowels regular, and the physical signs in his chest were identical with those described in the foregoing case. His pulse was 88, and temperature 100°. He exercised the utmost caution in regard to himself, and in the following May I allowed him to return East for the summer. Immediately on his reaching Boston he consulted one of the best specialists in this department in this country, who was fully informed in regard to his case, and he was told as I had told him, that there was a little dry crumpling at his left apex, probably pleuritic. This past winter he returned to Colorado again, more as a means of prevention than for any other reason, and to-day he is back at his work as nearly "well," I think, as it is possible for any one to be who has ever had serious lung trouble. In these two cases, which consulted me at about the same time, there were nearly identical conditions, as regards heredity and the lungs, existing when they came to me. The climate could work upon the one, for he had recuperative power. The other did not have. Her digestion was impaired, her appetite gone, and she was of a nervous type, and so she succumbed rapidly.

The citation of these two cases will probably illustrate my meaning better than figures could do. However, I am supported by the facts, for I find that, with only two or three exceptions, in every one of the fifty cases which I have classed as "much improved," the digestion and appetite are classed as "good," and bowels "regular," whereas of the twenty-six who "died," I find that the appetite and digestion were bad in sixteen, and in some of these cases the appetite was entirely gone, and in ten of the twenty-six the bowels are classed as constipated, loose or irregular.

Pulse and Temperature. — I need only adduce my figures in support of my previous assertion with reference to these factors as elements in prognosis. A rapid pulse and high temperature, especially when combined with an impaired digestion and appetite, are unfavorable symptoms.

Of the twenty-six deaths, I find that, at the date of consulting me, fifteen had a pulse beating at from 100–120–130, and a temperature ranging from 100°–102°–103.5°–104.2°. Of the remaining eleven, I have not kept records of these factors, in four cases; but of the seven that are left the records show a pulse over 100 in three of the cases, and a temperature 99.5° to 100.5° in the remaining four.

On the other hand, in the fifty cases tabulated as "much improved," I find only seven where the pulse and temperature were each over 100°, the highest pulse being 116 and the highest temperature 101°; of the remaining the pulse would range from 80–96, and the temperature would be normal or ranging from 99°–100°.

Condition of the Lungs. — I approach this subject with hesitancy, because I feel, as Dr. Williams expresses it, that "the classification of the conditions of the lung, consolidation, softening and excavation, into first, second and third stages, is open to objections, because such stages are not always well-defined, it being difficult, sometimes impossible, to distinguish between the end of the second and the beginning of the third, and again, various parts of the same lung may be in different stages." I also feel a hesitancy because I know that I have, at times, found undoubted signs, when others, whose diagnostic powers I highly respect, have failed to find them, and *vice versa* the tables have been similarly turned on me.

I prefer, therefore, to classify my cases somewhat differently, more as regards the extent of tissue involved than as regards its stages.

Where only a small portion of one lung is involved, for example, one apex, or where it may be that both apices are but slightly involved, for example, prolonged expiration at one; heightened percussion note, prolonged expiration and a few fine râles produced by cough with deep inspiration at the other; or further when the trouble, as sometimes but rarely occurs, is found in a portion at the base, such cases I prefer to classify as "having slight trouble."

Where the disease has progressed further than this, involving the whole of one lobe, or where, as frequently happens, râles are to be heard in two separate lobes, and yet softening has not taken place, I shall call such, "marked trouble."

Lastly, where the dulness has become very marked over one or more lobes, and this is accompanied by tubular breathing, marked bronchophony and râles of various sorts, even though I cannot positively diagnosticate cavities, as I am indeed very slow to do, I prefer to classify such cases as, "considerable trouble."

Consulting my tables, then, with reference to these distinctions, I find that of my fifty cases recorded as "much improved," the trouble could be classed as slight in thirty-four, marked in fifteen. The one remaining case consulted me four years after coming to Colorado, and I was not then able to detect any physical signs which would indicate the nature of his original trouble.

In the next class, of those "somewhat improved," I find four in whom the trouble was slight, thirteen in whom the trouble was marked.

In the next class, or those who are worse off than when they came, I find, that when they came, four could be classed as slight, three as marked.

And of the twenty-six who died, four could be classed as slight when examined, four as marked, and eighteen as considerable.

The conclusion to be drawn from these figures then is, that the most favorable cases for Colorado, as far as the condition of the chest is concerned, are those in the early stages, when the disease has not made much progress.

Later on, when perhaps they have reached the so-called second stage, they may be sent, with the hope of getting some improvement; but when the disease is very considerable, especially if the condition be marked by impaired appetite and digestion, and by hectic and rapid pulse, they had better be kept at home.

Complications. — I have had under observation, and included in my list, five cases of undoubted tubercular laryngitis. Of these, two have gained a recovery, one has made some little improvement, one has died, and the fifth was getting worse when I last saw him. One of my patients on this list has an empyæmic cavity on

the left side, where resection of the ribs has been performed, and he is around attending to his business, without any marked inconvenience. In two cases, the fibroid condition on the left side is so marked that the heart is drawn up and to the left of the nipple; but they are doing finely, and are classed as much improved. One case was attacked with acute endocarditis, some six months after coming here: he weathered the attack, and is classed as much improved.

Five of my list, I know positively, have had syphilis. Of these, two are classed as much improved, one as somewhat improved, one as worse, and one has died.

Several of my cases have been attacked with rheumatism, typhoid fever, and other complications not pulmonary; and I have not noticed that their lungs have received any additional damage from such illnesses.

But time fails me for any closer analysis of even one hundred cases, and I must stop.

The conclusions that it seems to me can fairly be drawn from the foregoing are as follows, namely: that, taking cases as they come to us, we can expect improvement in two out of three; that men do better than women, as in fact they do anywhere; that persons over twenty years of age do better than those under twenty, and that those over thirty years of age do still better; that heredity forms no bar to a person's coming to Colorado, but that the more indirect the inheritance the better are the chances; nor should a hæmorrhagic tendency debar one from coming, as such cases do admirably well; that altitude *per se* is not a producer of hæmorrhage; that the chances of obtaining an arrest of trouble are improved by the patient's possessing a sound digestion, a good appetite and a pulse and temperature not much raised above the normal; and that patients in the early stages of the disease, especially if their digestion be sound, appetite good, and pulse and temperature nearly normal, are the fittest subjects for our climate, whether they have any hereditary tendency or not.

THE CHEMISTRY OF ARSENIC.[1]

BY WILLIAM B. HILLS, M.D.,
Assistant Professor of Chemistry in Harvard Medical School.

Arsenic Acid. — This is a very poisonous compound not often met with outside the chemists' laboratory, and not likely to become the object of a medico-legal investigation. It is a white, non-crystalline, deliquescent solid, soluble in water. The solution has an acid reaction. Heated to a red heat in a closed tube it is decomposed into oxygen and arsenious oxide, the latter forming the characteristic sublimate in the cool part of the tube. It is only with great difficulty that it is completely volatilized. It responds to Marsh's test, the reduction test previously described, and Reinsch's test provided the solution is sufficiently acid. There are also special tests for arsenic acid, some of which are important inasmuch as they are made use of for the purpose of estimating arsenic quantitatively.

The arseniates of sodium and potassium are much used, especially the former in the processes of calico printing. They are white, non-volatile, deliquescent salts, soluble in water. They have only rarely given rise to poisoning. They respond to the tests for arsenic acid, as well as to those for the constituent metals.

Sulphides of Arsenic. — Arsenic disulphide occurs native as realgar. It crystallizes in more or less translucent prisms which have an orange-yellow color and a resinous lustre. The commercial product is an artificial sulphide made by subliming a mixture of arsenical pyrites and iron pyrites. The product is then melted with arsenic or sulphur, according to the shade of color desired. This artificial product is amorphous, red and opaque. Its composition is variable. It usually contains free arsenious oxide. It was formerly used as a pigment. Mixed with lime it is employed in tanning for removing the hair from skins. It is a constituent of Indian or white-fire, which is used for pyrotechnical purposes.

Arsenic trisulphide, which is known under the name of orpiment or yellow sulphide of arsenic, occurs native in translucent, lemon-yellow colored prisms. It is obtained pure by passing sulphuretted hydrogen gas through a solution of arsenious acid or of an arsenite acidified with hydrochloric acid. This compound is occasionally found in the œsophagus, stomach, or intestines of persons poisoned with arsenic, as a result of the sulphuretted hydrogen, formed during decomposition, upon arsenic present in these organs. The commercial product is prepared by subliming pulverized arsenious oxide and sulphur in the proper proportions. It is, as thus prepared, a mixture of arsenious oxide and sulphide, and is very poisonous by reason of the former constituent. It was formerly much used as a pigment under the name of King's yellow, but is rarely used as such at the present time. It is used in calico printing and dyeing, especially for the reduction of indigo; mixed with lime it is used in India as a depilatory.

The sulphides of arsenic are insoluble in water, (any oxide present, however, is dissolved by water.) They are soluble in alkaline hydrates and are reprecipitated from these solutions by an excess of acid. They are converted by nitric acid to soluble arsenic acid. They are distinguished from nearly all red or yellow inorganic compounds by their volatility. They respond to the reduction test for arsenic (with sodium carbonate and potassium cyanide) and are thus distinguished from all red or yellow colored compounds.

Arseniuretted Hydrogen. This is a colorless gas with a peculiar and extremely disagreeable odor. It is the most poisonous compound of arsenic. Prepared by dissolving any compound of arsenic with a metal in dilute hydrochloric or sulphuric acid; or by bringing any soluble compound of arsenic in contact with nascent hydrogen. It is of especial importance in its chemical relations, since upon its formation is based Marsh's test for arsenic. Poisoning by arseniuretted hydrogen has hitherto been accidental: either the result of inhaling the gas in the laboratory, or of inhaling hydrogen made with arsenical zinc or arsenical sulphuric acid; or of inhaling the gases evolved in certain manufacturing or mining processes.

MEMORANDA RELATING TO ORGANS AND SUBSTANCES SENT FOR ANALYSIS.

The organs which should be submitted to chemical analysis in a case of suspected arsenical poisoning are the following: stomach and intestines with their contents, liver, kidneys, spleen, brain and heart. Any urine remaining in the bladder should be saved, since it is with the urine chiefly that arsenic is eliminated.

[1] Concluded from page 155 of the Journal.

Medicines administered during life, suspicious chemicals, suspected articles of food and drink, the vomitus, fæces and urine, if any, voided during the attack, must also be secured. At the autopsy the organs should be placed for examination upon plates which have been thoroughly cleaned by the medical examiner himself. Special care should be taken that they are not brought in contact with undertaker's paraphernalia on account of the danger of absorbing some disinfecting fluid containing arsenic. If the stomach and intestines are opened, care should be taken that the contents are not lost, since the examination of the latter by the chemist is often of great value. If the interior of the stomach or intestines is washed, the wash-water should be saved, for it may contain solid particles of the poison removed from the mucous membrane. The organs should be sent to the chemist in perfectly clean glass jars, each organ in a separate jar, and the latter should be closed with glass and not metallic caps, carefully sealed and labelled by the examiner. They should be sent to the chemist by a messenger, or preferably two messengers, to diminish the danger of loss of identity through the death of a messenger. Above all, they should not be sent unsealed by express since their identity is thereby lost. The organs while in the possession of the examiner or messenger should never be left in any place to which others have access. No preservative should be employed. The use of such complicates the analysis, and renders an analysis of the unused portion of the preservative absolutely essential in case any poison is detected. It is a wise precaution, in cases which are likely to result in a trial for murder, to divide each of the organs and submit the separate portions to two chemists; 1 for the purpose of confirmation of results if such is desired; 2 that in the case of the death of one chemist the results of the analysis may not be lost. A frequent error in cases of suspected poisoning is that of sending the stomach alone for analysis, in the belief that if poison has been administered it must necessarily be detected in the stomach. This is a mistake; for the poison may have been entirely removed from the stomach by vomiting or absorption, so that it can no longer be detected there, while its presence is readily determined in the blood and solid tissues. This is likely to be the case if the patient has survived the administration for many hours. A mistake is sometimes made in sending a small portion of some one organ for analysis. If the amount of poison present is very small, the analysis under such circumstances may be wholly negative. The whole of each organ should be submitted for analysis. The importance of the chemical analysis of the vomitus and urine in cases of suspected arsenical poisoning should never be lost sight of. Arsenic usually provokes violent vomiting, and it may happen that the poison is wholly removed from the stomach so that none can be detected in this organ after death. If the patient survives a week or more, all the poison absorbed may be eliminated, so that after death none can be detected in any of the organs. In such a case the analysis of the vomitus might be of great importance in the way of establishing the fact of poisoning. The examination of the vomitus is further important, since, if the poison has been taken in the solid form, it may enable the chemist to determine the exact compound taken, a fact which cannot be established after the poison has been absorbed, excepting in the case of Paris green poisoning.

The examination of the urine passed during life is especially important, for the urine is the chief channel of elimination and the detection of arsenic in this secretion is a positive proof that arsenic has been absorbed into the system and is in process of elimination. The examination of the vomitus and urine thus afford the best means of establishing by chemical evidence during the life of the patient the diagnosis of arsenical poisoning.

QUESTIONS LIKELY TO ARISE IN CONNECTION WITH ARSENICAL POISONING.

(1) The question is always asked in trials for murder by poisoning with arsenic, if the quantity detected in the body is sufficient to cause death? the feeling being quite general that the evidence is defective if the answer is in the negative. The arsenic found in the stomach and intestines however, if any, is not the arsenic which has caused death. It is simply that which is left after the absorption of a certain amount, and the loss, in most cases, of a certain amount by vomiting and purging. It, therefore, furnishes no clue to the amount actually taken, which is the more important question. If a large quantity is found in the stomach and intestines, it is, of course, evident that a large quantity must have been taken. But a half-grain detected in the stomach may be the residue from a small or a very large dose. Neither does the quantity extracted from the organs ordinarily submitted to the chemist furnish any definite clue to the actual quantity taken. If several grains are isolated, a large and fatal dose must have been taken. But a small quantity may represent either a relatively small or a relatively large dose. For in the latter case much must have been thrown off by vomiting and purging and thus have escaped absorption; and much may have been removed by elimination if the patient has has survived a few days. Moreover, the chemist never isolates all the poison contained in the body, for he subjects to analysis only a small portion of the body, all parts of which, as a rule, contain more or less arsenic. The quantity isolated is, therefore, only a part of that actually taken, and does not necessarily bear any relation to the latter. Finally, we do not know what quantity of arsenic must necessarily be absorbed to cause death. We know what amount is *ordinarily* fatal. But just as this may vary widely in different cases, according to conditions all of which are not understood, so the amount actually necessary to be absorbed to produce a fatal effect probably varies in different cases. In any case the detection of *any* quantity of arsenic over and above insignificant traces is sufficient *chemical* evidence of poisoning. Of course if the amount of arsenic detected is small and *symptoms and appearances are wanting or doubtful*, it may reasonably be suggested that such arsenic may be the remnant of medicinal application, or that it may have been introduced by exposure to arsenical papers or fabrics.

(2) The question is usually asked, "Can you tell if this arsenic was taken into the system before death or introduced after death?" The answer is, "No." The experiments of numerous investigators have proved conclusively that arsenic, injected into the mouth, rectum, and other parts of the body after death, is, by the process of diffusion, carried sooner or later to even the most remote parts of the body, as the brain. It may be suggested that the symptoms in any given case

may aid us in forming an opinion, but it must not be forgotten that there are diseases in which the symptoms closely resemble those of arsenical poisoning.

Professor Reese has suggested that the detection of arsenic in the urine might be regarded as evidence of ante-mortem poisoning, as it is hardly probable that arsenic introduced after death would percolate through the coats of the bladder so as to contaminate the urine. But Dr. Miller shows that arsenic introduced after death into the stomach so diffuses itself as to be detected after a few days not only in the various solid organs of the body but even in the urine. Hence we cannot say from a chemical analysis that the arsenic was not introduced after death. We can *sometimes*, but not always, say (from the quantity found, if large, the distribution, or other circumstances), that it was introduced after death.

The question of the post-mortem diffusion of arsenic derives its importance largely from the practice prevailing among undertakers of injecting into various parts of the body shortly after death embalming fluids most of which contain arsenic as one of the ingredients. This practice is one which must occasionally result in defeating the ends of justice, and its regulation by legislation seems to me highly desirable.

(3) If the body has been exhumed, the chemist is usually asked if the arsenic found could not have had its origin in the soil which at times contains arsenic. It has been satisfactorily demonstrated however, that arsenic exists in the soil in a form insoluble in water probably in combination with iron. Schlagdenhauffen and Garnier [4] have further shown that if an aqueous solution of any compound of arsenic is left in contact with a clayey soil containing lime or iron at the ordinary temperature, the arsenic is gradually converted into insoluble compounds which are retained by the soil. Any arsenical compound introduced into such a soil, and subjected to continual infiltration of rain, if originally insoluble, remains insoluble: but if soluble, it gradually becomes insoluble, and at a depth of 0.6 to 0 9 m. from the point at which the arsenic is introduced, or no arsenic can be detected in the infiltered water, even after fourteen months.

With ordinary precautions, therefore, in conducting an exhumation the question cannot become a source of embarrassment so long as the coffin remains sound. If the coffin is so far decomposed that the soil has come in contact with the remains, it is, of course, possible that *traces* of arsenic may be accounted for in this manner provided the soil is an arsenical one. To meet the objection it is important in cases of exhumation that a sample of the soil above the coffin be submitted to the chemist with the organs for analysis.

(4) How long after death can arsenic be detected? If present at the time of death it may be detected for many years; fifteen or twenty at least. The possibility of the loss of arsenic after long periods must, however, be recognized. Hamburg mixed one gram of arsenic oxide with some finely divided organs and placed the mixture in a flask. He found that the gases evolved during putrefaction contained an abundance of arsenic. At the end of nine and one-half years the amount of arsenic present corresponded to only 0.551 gram arsenious oxide.[5] The odor of arseniuretted hydrogen or other volatile arsenical compounds evolved from putrefying organic mixtures containing arsenious oxide has been frequently noticed by chemists. A similar odor is frequently noticed when the bodies of those who have been poisoned by arsenic many months or years before, are first opened. This odor is not, however, *necessarily* indicative of arsenic, for it is sometimes noticeable when no arsenic can be detected.

(5) The effect of arsenic on the putrefactive process may be inquired into. In some cases of arsenical poisoning the body has been found remarkably well-preserved many years after death. To what extent this is due to arsenic is uncertain; for in some cases of arsenical poisoning decomposition has proceeded very rapidly, while the body has been found very well preserved in cases of death from other causes. We cannot therefore say that the preservation of the body in any given case is due to arsenic.

(6) May death have been caused by arsenic, and yet none be detected in the body? Yes. Death may take place within a few hours and none be detected in the stomach or intestines, on account of removal by vomiting, purging and absorption. It may be found in the stomach and intestines and not in any of the organs of the body; or it may be absent from one organ and yet present in other organs. Or it may early disappear from all. Wormley found only $\frac{1}{100}$ of a grain of arsenic in the liver of a dog that had been under its influence for eight days and then died from its effects.[6] Casper found arsenic both in the solid state and in solution in the contents of the stomach in a case in which death took place in twenty-four hours, but neither the blood nor the liver revealed its presence (quoted by Wormley). Grohe and Mosler record a case in which a child two years old died in seventeen hours from the effects of a green arsenical paint. Arsenic was found in the vomited matters, but not even a trace in the contents of the stomach and intestines, or in the spleen, liver, bile or kidneys (also quoted by Wormley). In the majority of cases of acute poisoning, however, arsenic may be detected in all the organs and tissues of the body: the liver usually containing the largest quantity of absorbed arsenic.

(7) In what time is arsenic eliminated? Elimination commences early and takes place chiefly through the kidneys: in part, through the glands of the skin, the mucous membrane of the alimentary canal, and in the bile, saliva, and tears. The time required for complete elimination appears to be, as a rule, about fourteen days; in some cases a longer period is required. Arsenic has been detected in the urine as late as six and one-half weeks after the last administration. Ludwig detected arsenic in the liver of a dog forty days after its administration. On the other hand, cases are reported in which death took place within a few days after taking the poison, and yet none could be detected in any part of the body.

[4] Comptes Rendus, 100. 1388.
[5] Zeitschrift für Analytische Chemie, 1887, p. 758.
[6] Micro-Chemistry of Poisons. Second edition, p. 312.

— *Old Mrs. Smiley.* Next time I get took down sick, my dear, I wish ye wouldn't have that there young sprig of a doctor come to attend me. I don't go much on young doctors, no how.— *Mr. Smiley.* Well, Maria, who would you like to have me call? — *Mrs. S.* I've kinder took a notion to the doctor around the corner. I dunno much about him; but I see he's got a sign out "Veterinary Surgeon," and I think he must be a man of experience.— *Lay Exchange.*

ON SURGICAL TREATMENT OF GANGRENOUS HERNIA, WITH REPORT OF FOUR CASES.[1]

BY MAURICE H. RICHARDSON, M.D.,
Surgeon to the Massachusetts General Hospital; Assistant Professor of Anatomy in the Harvard Medical School.

THE time required for the operation of excision is short. In my two cases the actual time of applying the stitches was twenty minutes, while the whole operation from the first breath of ether did not exceed an hour. If, for any reason, more than an hour or an hour and a half is taken, I believe that the chances of recovery are very much lessened. Bearing in mind the importance of speed as well as of accurate adjustment of sutures, and that the only other thing of actual necessity is the protection of the peritoneal cavity from the introduction of septic material, all other steps in the operations should be shortened as much as possible. In my observation and experience the time lost in operation is at the beginning, where generally there is no need for careful dissection. It ought to take very little time for the exposure of the bowel, and a very little more to incise the ring and get the parts in position for careful examination, and if necessary, excision. The greater portion of the hour should be free for the crucial part of the procedure; namely, the introduction of the needle and the treatment of the mesentery. Another important point is to avoid unnecessary handling of the parts not only on account of the injury to the peritoneum, but also the loss of time. In order that no time may be lost in disinfecting, an assistant should be devoted to the constant irrigation of the parts during the entire procedure. With ordinary skill and experience the whole operation should not exceed an hour, or at most an hour and a half.

The extent to be resected depends upon the amount of gangrene. I think that an inch to the sound side of the constriction made by the ring is a good rule, provided that the mesentery to that part of the bowel is uninjured. It is certainly better to be on the safe side and take out too much rather than too little. A quick, sharp, transverse cut to the mesenteric attachment should be made with straight scissors, followed by irrigation and the immediate application of the first stitch. The mesentery is best treated by ligation and transfixion after the intestine has been severed. This makes the subsequent nutrition of the bowel more sure, and it also acts as a stay to hold the divided ends together, and takes the strain off the dangerous stitches at the mesenteric border. In my second case, I was surprised to find how little the pedicle of the mesentery interfered with the looks of the whole. It lay under the line of the suture as a small puckered knot, and offered little or no ragged surface to the opposing peritoneum. The action of the knot in drawing the ends of the bowel together and holding them in position, is certainly of great service. I was glad to see this point mentioned in some of the later authorities, for at the time I was quite reluctant to leave the mesentery in this shape.

The method of suturing is important. I believe that the interruptured suture of Lembert is all that is required. I do not believe that it is best to take the time necessary for a suture of the mucous coat, nor do I believe that a double row of stitches is required. If there is no other objection, the time spent is a sufficient one. My plan is to apply the first stitch opposite the mesenteric attachment, and from this point to work each way. If one begins at the mesenteric border and goes right around the intestine, he may not come out even at the other side. The procedure is greatly facilitated by leaving the thread-ends long, and having an assistant pull slightly on them, thus making the surface of the bowel taut, and in good position for the next stitch. I think it is also important not to have too many stitches, and not to include too much of the end of the bowel. Intervals of a quarter of an inch are sufficient, and an infolding margin of the same extent.

I have had no experience with Senn's plates or Abbe's catgut rings, but I have no doubt that in certain cases they will play a very important part in getting rid of the evils of the artificial anus.

The operation of incising the gut without dividing the ring, seems to me useless and absurd. I have never yet seen a strangulated hernia where the slightest thing could escape until the constriction had been divided.

Where the general condition of the patient is unsatisfactory, excision and suture should not be performed. Some patients, however, though they seem strong and in good condition, are not as good subjects for this operation as others apparently in worse shape. I have seen a young man die in less than twenty-four hours from a strangulation that reduced itself immediately after death, where no operation had been done, and where six hours before death the condition was as good as could be desired. In other cases there seems to be a power of resistance on the part of the patient, shown by actual improvement in constitutional symptoms after the immediate shock of strangulation has passed away. I believe that it is not rare to find cases where the condition is better after three or four days' strangulation than it is at the end of the first twenty-four hours. In my successful case of excision, the pulse and general appearance improved steadily during the anæsthesia and the manipulations of the operation, and when she was taken to the ward she had a better pulse than when we began to give ether. Another point in favor of the patient is a good family history, especially as to resistance to disease and longevity. While everything connected with the physical condition of the patient may be favorable for resection, potent objections may exist in the accessory conditions which surround the case. It should never be done unless the fullest preparations are at hand. It should never be undertaken without good assistants, proper instruments, all the material for perfect suturing, and every chance for asepsis. I do not think it should ever be done extemporaneously or by inexperienced practitioners. It is not an operation to be lightly undertaken.

The reasons why resection is, in my opinion, very much to be preferred to any other method, in suitable cases, where every condition is favorable, are: that we have in successful cases a return to perfect health in a few weeks; that we avoid the dangers and discomforts which accompany artificial anus as well as those from opening the intestine high up; and that we do not have to subject the patient to additional risks of secondary operations. The sum of the dangers of artificial anus and subsequent resection, as McCosh shows, I believe to be fully as great as that of immediate excision. Especially is this true if we add the danger from opening the small intestine near the stomach — a

[1] Concluded from page 152 of the Journal.

danger which we cannot avoid in any case where the small intestine is involved, unless we explore the abdomen so extensively in our efforts to find out, that we add enough to the shock of the operation itself, and to the dangers of infection, to overcome the very doubtful balance of chances in favor of artificial anus. Another very potent objection to the palliative operation is the artificial anus itself, with its dangers and disadvantages. We always have excoriations of the skin, and may have extensive phlegmons. In most cases we have a septic condition of the surrounding parts which may be quite as dangerous as a source of infection at the secondary operation as at the first.

The dangers of sepsis are the greatest during the operation of excision, as it seems to me. Nothing could be more septic than the gangrenous sac in my second case. Yet it is quite evident that this danger exists to a very considerable degree in any operation where the ring is incised and the bowel pulled out. I believe that the danger of subsequent infection from failure of the stitches in artificial anus is very great; and that there is the same danger in secondary resection. It is certainly a very difficult thing to make a tight joint with two intestine-ends in the middle of a straight incision. In a case reported some time ago in the *Boston Medical and Surgical Journal*, of ulcerative perforation of the transverse colon, I met with this difficulty, and the patient lost her life from giving way of the stitches and fresh fæcal extravasation. If the bowel is not sewed into the ring there is danger of retraction of the ends into the abdominal cavity, as in Pye's case referred to above.

As regards the comparative mortality from the different procedures, very little dependence can be placed upon statistics. Strangulated hernia which has existed long enough to become gangrenous, is in itself a very fatal condition. So far as I have been able to find, the first case of successful termination of gangrenous hernia at the Massachusetts General Hospital from its foundation to the present day, was the case reported in this paper. With the exception of the first case, all were treated by incision or artificial anus. Some authors place the mortality very high in the artificial anus, and others very low. The only statistics that would be of any value would be those of well-known operators of great skill, where the conditions under which the two operations were done were approximately the same. Some deductions might be drawn from a very large number of cases from all sources, where the personal equation would be lost sight of, but as yet the number of cases is too small. It should be said, however, that it seems very probable that the mortality is higher after resection than the tables of McCosh show, because there are undoubtedly more cases of successful excision reported than of unsuccessful. Cure by the spontaneous opening of the gut, though not uncommon, must be extremely rare in proportion to the total number of cases left to themselves.

In comparing the mortality of the different operators, it must not be forgotten that the percentage of recoveries from all cases of strangulated hernia not relieved by taxis, is quite small. At the Massachusetts General Hospital, in 94 cases of all kinds upon which an operation has been done, there have been 52 recoveries and 42 deaths, a mortality of 44.6. Excluding the cases which were practically moribund on entrance, the mortality would be considerably diminished. Of these 94 cases, 7 were gangrenous and 2 doubtful. All the gangrenous cases died, including the doubtful ones, except the last, treated by excision and suture.

Statistics of Excision and Suture.— Schmidt gives the mortality at 71.1. Makins collected 55 cases, with a mortality of 52.7 per cent. Reichel, 1884, collected 56 cases, with a mortality of 52 per cent. McCosh collected 115 cases, with a mortality of 50 per cent.

Artificial Anus, primary operation. — Körte gives 111 cases of gangrenous hernia treated by formation of artificial anus with 100 recoveries and 11 deaths. Another author gives 32 cases, with no deaths. Coppens collected 28 cases, 12 recoveries and 16 deaths. Schmidt, mortality of 85.5 per cent. Hermann (quoted by Haenel) 83 cases, with 76 recoveries and 7 deaths; 26 had fistula left. Weil, 15 cases, 2 recoveries with fistula, and 13 deaths.

Resection for Artificial Anus.— Makins records 40 cases, with mortality of 38 per cent. Haenel, 43 cases, 27 recoveries, 18 deaths; 37 per cent.

It seems to be the general opinion of surgeons, that under some circumstances, excision and return are justified. It seems to me that the primary operation should only be done when all the conditions are favorable. It is preëminently a hospital operation. Every appliance and preparation should be ready for its most perfect performance. It is not an operation to be recommended to the general practitioner or to the unskilful operator. It depends for success more upon rapid and skilful execution than almost any other operation. There is no doubt that in some cases the procedure is imperative where the part necrosed is too high up for the intestinal nutrition to be maintained. The difficulty, of course, is to be able to recognize this state of things. Even when it can be demonstrated that the jejunum is gangrenous, excision is not justifiable unless the patient's condition offers some hope. There is a chance that the relief of the symptoms of obstruction may be followed by sufficient improvement to make the secondary operation possible.

NOTE.— (June 14.) — The admirable papers published very recently by Abbe on the adaptability of Senn's principle of intestinal anastomosis to the treatment of fæcal fistula, either by the original decalcified bone plate of Senn or the catgut ring modification, are full of promise, though it is perhaps too early to say it will in all cases take the place of the methods considered in this paper.

RECENT PROGRESS IN OPHTHALMOLOGY.

BY MYLES STANDISH, M.D., BOSTON.

VISUAL CONDITION AFTER THE REMOVAL OF TOTAL CONGENITAL CATARACTS.

FISCHER,[1] in an article upon the visual condition after the removal of total congenital cataracts, in which eleven cases are reported similar to his own, reports a case from the clinic of Professor Schoeler. Patient was a girl, aged eight, who had complete soft cataracts filling the area of each pupil. Pupil action, projection and light perception were good. There was no strabismus and no nystagmus. Both lenses were removed at the same time.

On the eighth day the pupils were free, media clear and each fundus was healthy. The bandage was discarded and patient for first time in her life was able

[1] Klin. Monatsbl. f. Augenheilk., December, 1888, p. 461.

to see. Placed back to the light she opened her eyes freely and directed them properly, when her attention was sufficiently excited. With bright and shining objects both eyes fixed properly without oscillation, but very soon the effort of attention ceased and movements from side to side began. Various things, such as an apple, plum, bread, fork and her own doll were placed before her, but she recognized none of them till she touched them with her fingers. She watched attentively the movements of a large cat, but had no idea what the appearance meant until the touch of her fingers explained it. On the third day when shown the same objects as on the previous day she failed to recognize any of them, and when told to select from similar series in her lap, a thing like the one held before her, she made great mistakes as to size. Several colors were recognized and named correctly. Moving about the room, she walked against every piece of furniture in her way. When taken into a garden, stood astonished before a tree. At the end of the third week, she had learned to recognize common objects about her and to play freely with other children, and was beginning to puzzle out the meaning of pictures of things already known to her in reality.

In summarizing the reasons of these observations, the writer emphasizes the statement, that in regard to the sense of form, the child was completely blind, and, whereas in regard to direction and to a lesser degree distance, there was already a certain degree of development.

ELECTRIC OPHTHALMITIS.

The effect of the electric light upon the eye has been written upon by Terrier [2] and Maklakoff,[3] and from a summary of the publishing cases, the symptoms would seem to be about as follows:

In mild cases discomfort and pain resembling that produced by a foreign body beneath the lid begins a few hours after exposure, together with a slight swelling of the lids and increased flow of tears. The conjunctiva is injected and œdematous, œdema being chiefly limited by the portion exposed in the aperture of the eyelids. The pupil is sluggish, fundus normal, but there are subjective sensations of light and color. The symptoms may disappear completely in the course of three or four days. In severe cases there is a scotoma, relative or absolute, covering the fixation point and an appearance of supplementary colors. After a few hours, there is injection and lacrymation, followed by intense photophobia. There is great injection of the conjunctiva, especially in the ciliary zone. The pupil is contracted. These disturbances are severe while they last, but diminish at the end of twenty-four or forty-eight hours, leaving no permanent injury. Some cases, however, reported by Little,[4] showed impairment of vision with haziness round the disc two months after the exposure.

Terrier thinks, with regard to the relative power for harm of the thermic, the luminous and chemical rays, that it is the chemical rays which are chiefly harmful, and calls attention to Foucault's proposal, that the eye should be protected by means of glass tinted with uranium, which has the property of intercepting the greater part of the chemical rays.

Maklakoff states that exposure to the arc light, used for the purpose of soldering metals in a large factory near Moscow, produced on himself, in addition to the eye symptoms, smarting of the skin of the face and other exposed parts which increased in three or four hours so that the skin became swollen and painful. A few hours after the exposure a coryza began, and a little later a troublesome dry cough. From the sixth to the tenth day, the acute symptoms subsided and there remained only a slight desquamation of the bronzed skin.

[2] Archives d'Ophthal., January and February, 1888, p. 1.
[3] Archives d'Ophthal., March and April, 1889, p. 97; Ophthal. Review, May, 1889.
[4] Ophthal. Review, vol. ii, p. 106.

NITRO-BENZOLE POISONING.

Nieden [5] reports a case of amblyopia with contraction of the fields of vision in a man twenty-six years of age, with not a very vigorous constitution who, when first seen by the author, presented the following symptoms:

Marked cyanosis of the face and mucous membrane of the lips, enlarged dark veins on the bulba conjunctiva. His eyes were dull and the expression anxious, breathing labored, pulse thready and irregular, 148 to the minute. An odor, not unlike that of bitter almonds was noticed in the patient's breath. Auscultation and percussion revealed normal condition of the lungs. Area of cardiac dullness was not increased and there was a systolic murmur. Liver enlarged and tender. Spleen slightly enlarged. Urine normal. V. O. D. and O. S. $= \frac{1.0}{20.0}$. Fields of vision upwards, 30°, downwards, 20°, outwards, 25°, inwards, 35°. Field for blue smaller than that for red. Ophthalmoscopic examination: media clear; retina and papilla, marked venous congestion; papilla, clear except a small sector of the border of the lower disc-sight, where there was a patch of exudation surrounding a vein; no hæmorrhages.

As the patient was employed in the manufacture of the explosive compound, nitro-benzole or robusit, and toxic symptoms came on after he had been engaged in this work a few months, his condition was attributed to nitro-benzole poisoning. Having abstained from work and been given cardiac tonics, he improved rapidly. His eye symptoms improved more gradually than the others. No improvement in sight for one month, but in six weeks he was able to do his work. The exudation in the right retina became absorbed, and the venous turgescence disappeared at the same time with general cyanosis.

In the manufactory from which Nieden's patient came, in the space of twelve months the large proportion of twenty-five out of thirty-three workmen had suffered more or less severely. No fatal cases occurred, although Elerburg [6] says that 34 % of the cases are fatal.

EYE INJURIES IN THE FRANCO-PRUSSIAN WAR, 1870–1871.

The Army Medical Department of the Prussian war-office has presented in Vol. III of the "Army Medical Reports," a report of the injuries of the eye in the German Army during the war with France in 1871.[7] This report coming at a much later period, is naturally much superior to that in "The Medical and Surgical History of the War of the Rebellion."

In a statistical presentation of the report, it is shown that during the war of 1870–71, injuries of the eye occurred 786 times, being 0.79 % of the whole number

[5] Centralbl. f. Prakt. Augenheilk., July, 1888.
[6] Handbuch Offent. Gesundheits., Bd. II., p. 535.
[7] Abstract. In Centralbl. f. Prakt. Augenheilk., Oct., 1888, p 309.

of injuries, and 7.8% of the head injuries. Affection of the vision after brain injuries were met with in seventy-four cases; this is 0.7% of the head injuries. The left eye was injured more frequently than the right, there being 317 injuries of the right and 374 injuries of the left eye and 76 in both eyes. Further analysis shows that 313 injuries were caused by bullets, 197 by shells, 3 by blows and 25 by thrusts. The shell injuries were on the whole less serious than those effected by bullets. The eye was destroyed in 62% of the latter and 36% of the former. The probable explanation of this is, that the bony surroundings of the eye afford better protection from fragments of shell than from bullets. On the other hand, contusions of the eye by bullets were two in number against sixty-five by fragments of shell. The injuries were divided among the different structures of the eye according to the following percentages:

Injuries of the sclera and conjunctiva, 3%; cornea, 7.7%; cornea and iris, 9.3%; iris, alone, 7%; lens alone, 5%; vitreous, 3.3%; retinal and choroidal hæmorrhage, 3%; rupture of the retina and choroid, 12.3%; separation of the retina, 9.3%; inflammation of the membranes of the eye, 15%; changes in the papilla, 10.7%; loss of sight from various causes, 22%. Injuries of the anterior portions of the eye were, in many cases, not followed by loss of the eye itself. Various noteworthy cases are reported; one in which hæmorrhage in the vitreous was caused by the atmospheric pressure of a discharge close to the left temple. Detachment of the retina followed. In eleven cases, the injury was attributed to the passage of a missile close to the eye without touching it. Among 69 injuries in the eye from bullets coming from one or the other side, the temple wall of the orbit was perforated in 34 cases, the nasal wall in 15, the roof in 15, the floor in 5. Two eyes were destroyed by shots from behind. In 28 cases both eyes were injured by bullets and in 9 of these both eyes were immediately destroyed. In many cases bullets were split or shattered by striking upon the margin of the orbit or upon the bridge of the nose. Many injuries were caused, not by the missile itself, but by other bodies striking against the eye, that is, stone, sand, spectacle-glass, etc.

No case of loss of sight due to copious loss of blood, is recorded throughout the campaign. Partial detachment of the iris occurred both at the immediate point of the injury and at the opposite side of the circle. Retroflection of the iris was observed in two cases.

In regard to the sympathetic affection of the second eye, 99 cases are recorded, but in many of these the diagnosis is somewhat uncertain. In 51% of the cases of supposed sympathetic affection, there is no record of any but subjective symptoms. In 17.4% there was inflammation of the conjunctiva; in 18.5% affection of the anterior portion of the eye and in 13% affections of the fundus. Enucleation was performed 23 times for the relief or prevention of sympathetic inflammation. In six of these cases, five of which were operated on within ten days of the accident and one seven months after, the uninjured eye was healthy; in five it improved after enucleation and in twelve the operation had no beneficial effect.

Of all injuries that destroyed the eye, left a foreign body in it, or set up a cyclitis, 56% are said to have set up sympathetic ophthalmia. Panophthalmitis appears to have caused sympathetic inflammation as often as any other form of traumatic inflammation. Injuries which immediately and completely destroyed the eye caused sympathetic ophthalmia in 62.7% of the cases. The inflammation most often appeared in the second six months after the injury. Probably the most startling portion of these statistics are those which relate to sympathetic ophthalmia.

AMAUROSIS WITHOUT OPTIC NEURITIS IN A CASE OF CEREBRAL TUMOR.

J. Hutchinson Jr.[8] reports a case of amaurosis without optic neuritis due to a cerebral tumor. The patient was a young laborer aged twenty, a bricklayer by trade, said to have been healthy till the spring of 1888, when his health began to deteriorate, and he became worse day by day. He noticed also some general weakness, became more tired than formerly, and, after a time, the eyes and head began to ache. At first intermittent, the headache became almost constant, and on June 25th the loss of sight, which affected both eyes, had so advanced that "he could not see to read large type, even when held close to the eyes." "The tops of the eyes ached"; and on June 30th he vomited once. He was thought to have tobacco amaurosis for the following reasons:

(1) The failure had been gradual, and was wholly unaccounted for by anything seen in the fundi. Both eyes were emmetropic.

(2) When tested by the perimeter, central scotoma for red and green was made out.

(3) He stated that he was in the habit of smoking about one-half an ounce of shag daily.

On investigating the case, it seemed improbable that it was really one of amblyopia. His age was much against him, and there was some evidence of mental deterioration. In addition to his complaint of headache and loss of sleep, the patient was liable to break into causeless laughter; he had a heavy and stupid expression and answered questions in a slow and rather imperfect manner. The pupils were large, and acted very slowly to light and accommodation.

The patient was admitted to the London Hospital on the 15th of September, and died three weeks later. Headache was constant to the end, but there was not the slightest evidence of neuritis and only occasional vomiting and nausea. Post-mortem examination was as follows:

Viscera healthy, with the exception of the brain. A large, soft glioma involved the apex of the right temporo-sphenoidal lobe, and reached across the middle line in the interpeduncular space. "On examining the brain more closely, it was found to be too soft to allow the exact limits of the tumor to be made out, but the growth had penetrated somewhat deeply to the right crus cerebri at the base of the brain; it extended over an area about as large as the palm of the hand and about one-half an inch in depth." The optic nerve and the posterior halves of the globes were removed and sections made involving the optic papillæ, within tranverse sections of the optic nerves both near to the eyes and towards the chiasma. The results showed that the nerve in the transverse section was equally affected throughout. The peri-neural sheath was filled up with small, round cells and delicate connective tissue, which, no doubt, consisted of prolongations of the gliomatous structure downward from the base of the brain toward the globes. Immediately behind the

[8] Royal Ophthalmic Hospital Reports, January, 1889.

lamina cribrosa was also a similar infiltration, the papilla itself, however, being quite normal. In the interstitial bands there was little evidence of change, nor could there be said to be any true neuritis.

Looking at the slight character of the changes present, it seems most probable that the amaurosis was due to the involvement of the optic chisma or tracts in the growth.

According to Annuske and Reich, papillitis is absent in only about 4 % of the total number of cases of cerebral tumor. It would be of interest to know in what proportion of 4 %, amaurosis was present without changes visible to the ophthalmoscope.

OPHTHALMIA MIGRATORIA.

Deutschmann[9] has been repeating Gifford's experiments (formerly reported in these papers) of injecting India ink into a rabbit's vitreous. Gifford traced the pigment subsequently along the central vessels passing with them out of the opticus thence back to the apex of the orbit. Deutschmann's results agree in part with Gifford's, but he also found the pigment in the sub-vaginal space close to the globe; it reached this space either by passing along the radiating vessels in the opticus, or by getting caught in the descending lymph stream at the point where the central vessels leave the nerve, and it gradually left the vessels after they had reached the orbit, so that none could be traced to the apex of that cavity. By injections into the orbit itself, he found that the pigment passed downwards and inwards between Harder's gland and the infra-orbital gland along the membrane orbitalis and that afterwards it passed through a fissure at the inferior border of the orbit and spread itself on the surface of the maxilla, but the pigment did not pass out of the orbit into the cranium. If it did in Gifford's experiment, it could not have been free pigment.

This experiment shows that the lymph stream in the inter-vaginal space runs toward the eye-ball and then passes partly into the orbit along the central vessels and partly into the supra-choroidal space, whence it gets under Tenon's capsule along the vasa vorticosa and so into the orbit. A third stream passes through the dural sheath into the supra-vaginal space and so into the orbit. Gifford's views are essentially the same. Deutschmann then submits Gifford's pathological experiments to a detailed criticism and concludes that Gifford has in no one of his three successful inoculations demonstrated the passage of microbes from the orbit into the cranial cavity, but that his experiments tend to prove that they pass from eye to eye, along the inter-vaginal space.

Deutschmann has obtained twelve positive results from thirty-four inoculations and in the successful cases has traced the micrococci from the vitreous along the central canal of the opticus accompanying the vessels, while the latter were in the nerve. Further back the collections of cocci were to be found in the inter-vaginal space of the nerves and the pia-mater of the chiasma, but hardly any colonies were detected in the orbital tissue itself. The experiments seem to have been restricted to rabbits.

Bacilli and cocci affect the eye differently; the former grow more rapidly, but set up less inflammation, the latter produce dense cellular infiltration round the sheaths of the central vessels which prevents the advance of the cocci out into the orbit, as the pigment granules do in physiological experiments; they then, Deutschmann says, work their way through lymph paths up stream to the chiasma. The inter-vaginal space is the true path taken by the cocci, the optic nerve itself is only implicated secondarily. The cocci reach this space either directly from the choroidæ into the pial sheath of the opticus, or along the radiating vessels in the opticus; they may pass from the supra-choroidal space, but Deutschmann has not seen this.

Deutschmann has demonstrated that the microbes in eyes exciting sympathetic ophthalmia are veritably pathological, by cultivating them in blood serum. The cultivations produced colonies of typical staphylococci pyogenes, albus and aureus, and the cultivations produced the same malignant types as their progenitors, when inoculated into rabbits' eyes. Pathological microbes have been found by Deutschmann in the sympathizing eye in five cases, of which one, at least, has been published. Cultivations from pieces of iris or aqueous humor produced colonies of staphylococci either white or yellow and inoculation demonstrated their pyogenic character. The rarity of sympathy from suppurative panophthalmitis is not opposed to the theory laid down, for as Leber holds, the cocci may be expelled by perforation, or rendered inactive by profuse suppuration, or, as Gifford holds, the lymph paths may have been mechanically sealed up by lymph cells. Deutschmann rejects the cases of so-called sympathetic disease excited by wearing artificial eyes, as either not sympathetic at all or occasioned by some other cause than the presence of a glass eye. The occurrence of sympathetic disease after enucleation is no objection to the theory, and the fact that a certain time always elapses between the injury of the first eye and the sympathetic disease of the other, of course supports it. The time varies from ten days, the earliest time reported in any case which Deutschmann allows, to many years, in one case thirty-five. The long intervals are accounted for either by the vitality of the microbes or by subsequent infection. Sympathetic conjunctivitis described by Galezowski, Webster and Brailey, is to be rejected completely, as are also scleritis, keratitis, cataract, retinal detachment, opacity of the vitreous, and only the classical irido-choroiditis is allowed to claim the title of sympathetic inflammation, sharing the honor, however, with neuro- and chorio-retinitis, of which many cases have been described in modern times.

The operations admissible for the protection of the second eye, are enucleation, evisceration, neurotomy of the opticus, with or without resection. Enucleation is the most certain, but evisceration with disinfection of the interior of the globe, effects the same object and, with the eyes in the state of panophthalmitis, is the better operation. Simple neurotomy cannot be certain in its results and Leber has published a case of sympathy two and one-half years after resection, but resection of a 10 mm. piece of the nerve, as practiced by Schweigger, may fulfil the indications, although Clausen has published a case where sympathy followed within seventeen days of such an operation. As the most rational treatment, an early iridectomy and repeated paracentesis of the anterior chamber is proposed, mercury to be given at the same time, and corrosive sublimate to be dropped into the conjunctival sac, as proposed by Gallenga.

[9] Ophthalmia Migratoria. Sympathetic Ophthalmitis. Hamburg, 1889. Ophthalmic Review, April, 1889.

Clinical Department.

AN INTERESTING CASE OF TRACHEOTOMY.

BY O. G. PFEIFFER, M.D., DENVER, COL.

WILLIE L., four years old, had an attack of membranous croup, which advanced until tracheotomy became necessary. As my assistants did not arrive soon enough, I cut down upon the trachea, made an incision below the cricoid cartilage, and inserted the tube.

Forty-eight hours later the membrane had formed below the tube, and before a messenger could find me, the child had slowly become asphyxiated, had passed through several convulsions, was of a blue and white mottled facial appearance, and was making an occasional struggling respiratory effort in which all the muscles of the face, throat and chest joined, but which drew no air into the lungs.

At first, the frequent futility of tracheotomy in diphtheria and membranous croup was uppermost in my mind; the next instant the thought occurred, Why were not tracheotomy tubes made longer with, perhaps, a flexible rubber prolongation of the tube? Then the thought occurred to me that, as the trachea was plugged with croupy deposit, Why could not the calibre of the trachea be dilated by the passage of a rubber bougie? Meanwhile, the child was practically dead.

A small new No. 8 soft rubber catheter was hastily seized and pressed through the tracheotomy tube, and forced on down the trachea some three or four inches. It was then withdrawn. The next struggle of the child for air was accompanied by a slight squeaking noise of air sucking a little through the trachea. The subsequent efforts of the child for air were assisted by artificial respiration with such success that, in ten minutes, the child had regained consciousness and looked around. The breathing improved.

Having been so fortunate by the introduction of the rubber tube as to get a little air into the lungs, I concluded, after the child had breathed a few times, to introduce it again. This was done, and a violent effort of coughing forced out a membranous cast of the trachea, half an inch long, that had been loosened by passing the tube. In a few minutes, the boy was breathing gently and easily, had regained consciousness and recognized his mother.

During the next four days and nights this tube had to be passed down the trachea and the loosened mucus coughed up; after these four days the trachea became clear of membrane, and in three weeks the child was well.

The lesson this case teaches is, that persistent effort, even in a seemingly hopeless case of tracheotomy, may avail something, and also raises the question, Might it not be an advantage to make tracheotomy tubes longer, with a flexible rubber prolongation of the inner canula?

— Mr. Elihu Stevens, aged 101 years and six months, the oldest man in the State of Maine, died August 11th, at Belgrade, where he was born, January 26, 1788. He was the father of twenty-two children, the most of whom are now living, and his descendants in the third, fourth and fifth generations numbered three hundred and twenty-six at the time of his one hundred and first birthday.

Reports of Societies.

MEETING OF THE OBSTETRICAL SOCIETY OF BOSTON.

CHARLES W. TOWNSEND, M.D., SECRETARY.

MAY 11, 1889, the President, DR. J. P. REYNOLDS, in the chair.

DR. TOWNSEND read a paper entitled

AN EPIDEMIC OF MEASLES WITH REMARKS ON RÖTHELN.

The reader described an epidemic of 76 cases of measles many of which were mild, some exactly resembling the description given of rötheln while others were typical cases of measles. He concluded that this was an epidemic of measles as of some 73 other children exposed who did not contract the disease, 66 had had measles before, most of these in an epidemic of the year before. This later epidemic although generally of a severe type, contained one case at least which he related and which closely resembled the description given of rötheln.

At the same time that the mild epidemic was at its height a small epidemic occurred at the McLean Asylum, all of the cases being in adults and all resembling the description given of rötheln. The following conclusions were drawn:

(1) That mild epidemics of measles occur in which many of the cases exactly resemble cases described as rötheln.

(2) That in the severe epidemic of measles similar cases resembling rötheln are occasionally found.

(3) That enlarged cervical glands and sore throat are sometimes found in measles and are not always present in cases described as rötheln.

(4) That there is no distinct symptomatology for rötheln.

(5) That the strongest evidence in favor of the individuality of rötheln is the fact that previous attacks of measles or scarlet fever afford no protection from this disease.

(6) That as second attacks of measles do occasionally occur, it is impossible to make the diagnosis of rötheln, unless, as in the Charterhouse and asylum epidemics, we meet with a series of cases many or all of whom have previously had measles.

(7) That as it is impossible to say how many second attacks of measles may occur in a given epidemic, this evidence of the individuality of rötheln is made somewhat problematical, and gives rise to the question, which the author was unable to answer, Is it possible that in some epidemics and not in others measles attacks equally those who have had measles before and those who have not, and afterwards affords no protection from measles? In other words, is rötheln a mild form of measles?

DR. C. P. PUTNAM, a guest, was a thorough believer in a separate disease, rötheln, and he saw no reason why there might not be several different diseases, resembling each other in some particulars. He had seen several eruptive diseases this winter, which resembled rötheln, but which did not give rise to other cases. He thought that cases described as rötheln never gave rise to regular cases of measles, and that this was therefore an unanswerable argument in favor of rötheln as a distinct disease. He related a case of a young man whose father two weeks before had an evanescent

measles like rash but was not sick. The young man had a slight scarlet fever-like rash, and two weeks later almost every other member of the family were slightly sick with a macular and papular eruption and slight catarrh. These cases he called rötheln.

DR. BUCKINGHAM, present by invitation, agreed with the reader and said in studying the diagnosis between measles and rötheln, whether in text-books or in the reports of epidemics, we find it made in the most various and contradictory ways, some writers not entirely agreeing among themselves to base their decision wholly upon the general symptoms, such as the length of stages or the severity of the disease; expressly stating that there is no difference in the eruption. Others make the diagnosis upon the eruption alone, and either ignore the general symptoms, or even state that they are not to be relied on for differential diagnosis. Dr. Townsend has, in the speaker's opinion, rendered a service in calling attention to the differences in cases of measles, and it is not only true that cases differ in towns during the course of an epidemic, but even in the same house at the same time, and to a great degree. He does not believe it possible to differentiate isolated cases. The only proof of the existence of two diseases seems to be the occurrence of epidemics having an individual character.

There is perhaps room for fair difference of opinion as to whether this ground is sufficient or not. We should not forget that there are individual characters to certain epidemics of other diseases, typhoid for instance. Meanwhile, the practical result of the present state of knowledge should be in the speaker's opinion, the treatment of rötheln so far as isolation goes, as if we knew it to be measles.

DR. JACKSON, a guest, spoke of the importance of thorough washing and scrubbing for disinfection as preferable to sulphur fumigation.

DR. ROTCH agreed with the writer and thinks it strange that we are still as much in the dark about rötheln as we were fifteen years ago. That until a symptomatology is given distinct from that of measles the existence of rötheln is unproven. We are learning more and more that attacks of measles are not necessarily protective from other attacks. Strümpell's description of rötheln is suitable for certain cases of measles. He saw nothing remarkable in Dr. Putnam's cases and he saw similar ones in epidemics of measles.

He would like to learn how to make a diagnosis. He remains in the same position as Henoch, of Berlin, who says he does not recognize the disease, having never seen a case. Dr. Rotch had made great efforts to see cases, having gone to the northern part of this State to see what was called an epidemic of rötheln. He found, however, typical cases of measles grading off into the mild cases previously described.

DR. COTTING spoke of an epidemic occurring in 1851–52, which, with Dr. J. Homans, Sr., he had reported, the cases resembling very mild cases of measles or scarlet fever. The article was published in the *Boston Medical and Surgical Journal*, in May 15, 1873, after reading a paper by M. Thomas of an epidemic exactly similar and called by him rötheln.

DR. ROTCH said that M. Thomas has since described cases of measles at the same time with which cases occurred resembling rötheln.

DR. C. P. PUTNAM said that rötheln resembles only the exceptional cases of measles or scarlet fever. It is hardly fair to suppose that a whole family may all be affected with a mild form of disease without any severe cases. He had never known of a case where the poison of measles was carried by a third person, and said that the poison of measles died much quicker than that of scarlet fever.

DR. J. STEDMAN related a case where a child was sick with measles, and its mattress was rolled up and put in the attic. A year later another child slept on the mattress, and exactly two weeks later came out with measles. In this case the poison had been preserved by non-exposure to the air. He asked the question, How long after an attack of measles should the child be isolated?

DR. C. P. PUTNAM said that, as a rule, four weeks' isolation was long enough in scarlet fever, and ten days in measles.

DR. ROTCH thought that this depended on the individual case. The greater the dermatitis, the longer the desquamation. Measles was probably more contagious by the breath than by the epidermal scales.

DR. LYMAN said there was nothing so embarrassing as the diagnosis of these cases, and thought it was about time the profession had made up their minds whether there was a distinct disease rötheln, or not. He spoke of a case of severe measles followed in a week by a mild attack in the same patient. He also spoke of the importance of isolating mild as well as severe cases, for one may give rise to the other.

The PRESIDENT thought that we often unnecessarily alarmed society by our great care in isolating cases.

DR. ROTCH thought it was much better to protect society, and stamp out the disease, even at the expense of frightening the family.

DR. STRONG exhibited the specimens removed by laparotomy from two patients in whom the clinical and physical symptoms were almost identical, illustrating the difficulty of making a diagnosis before opening the abdomen.

I. TUBO-OVARIAN CYST: SUPPURATING, SIZE OF SMALL ORANGE.

Patient thirty years of age; married two years. For four years previously had had pain in left ovarian region, which had steadily increased during the past year. Menstrual periods were much prolonged and very painful since marriage. The patient had never been pregnant. During the past year had lost much flesh, and had several slight attacks of recurrent peritonitis. Vaginal examination showed a strongly anteflexed uterus. The left side of the pelvis and Douglas's fossa was occupied by a mass of inflammatory exudation surrounding a tensely elastic swelling of quite regular outline, immovably adherent and about the size of an orange. Before operation the diagnosis was made of a probable dermoid tumor of the left ovary, from the presence at the lower part of the tumor of a very hard mass feeling precisely like the bone plates found in dermoid tumors. The possible diagnosis of tubo-ovarian cyst was left open. Operation showed it to be the latter.

II. DERMOID TUMORS OF BOTH OVARIES.

Patient twenty-eight years of age. Having a fall five years previously, pain began in the left ovarian region, and had since continued at irregular intervals, accompanied by slight, sharp attacks of peritonitis. The patient had been married eighteen months, since

which time she had flowed excessively at each menstrual period, and was sterile. Her temperature, as taken at intervals during the three months she was under observation, varied between 99½° and 101°. She had lost much flesh. Vaginal examination showed an anteflexed, enlarged uterus. Behind the uterus, and extending on either side up to the pelvic brim, were firm, fluctuating swellings, each the size of a small orange, surrounded by inflammatory exudation, irregular in outline, immovably adherent, and on the left extending apparently along the course of the broad ligament well to the side of the pelvis. The diagnosis was recorded, of probably double salpingitis, but the possibility of ovarian cysts, simple or dermoid, was also considered. Operation proved the latter the correct diagnosis.

The two cases showed parallelism in the clinical history, of time, sterility and menorrhagia since marriage, disability, localization of pain, and recurrent attacks of peritonitis. Physically the tumors were almost identical in their site, shape, sensitiveness, immovability and size, differing only that in the one case it was single, and in the other they were double.

Dr. Strong also referred to a third case, in which he had removed a simple ovarian cyst which had developed from a prolapsed ovary, in less than three months. The patient presented no other lesion than prolapse of the left ovary into Douglas's fossa. The entire surface of the ovary could be, and was, thoroughly examined. As the patient's ill-health was apparently from general debility rather than uterine disease, no local treatment was advised. Six weeks later the ovary was found to be enlarged to the size of an English walnut, and very sensitive. Under an ether examination no irregularity in outline was detected. In six weeks from the second examination a laparotomy was performed, and an ovarian cyst the size of a cocoanut was removed. The cyst was very thin walled, and the enclosed fluid very clear. It grew from the upper free border of the ovary. The specimen, which was to have been shown, was unfortunately destroyed. The convalescence of all the patients was normal.

AMERICAN NEUROLOGICAL ASSOCIATION.

Fifteenth Annual Meeting, at Long Branch, N. J., June 26 and 27, 1889, the President, Dr. E. C. Seguin, in the chair.

FIRST DAY. — MORNING SESSION.

Dr. Morton Prince, of Boston, presented a paper on

MALARIA AS A CAUSE OF DEGENERATIVE DISEASES OF THE SPINAL CORD.

He spoke of the frequency of tabes and other spinal degenerations in cases which also presented a history of malaria. The first case he had recorded was one of locomotor ataxia with typical tabetic crises before each malarial chill. Another had gastric crises regularly once monthly, and another crises beginning with rigor and followed by diarrhœa this occurring every three weeks. The latter case had been diagnosticated as malaria by the family physician. Altogether, the author reported in detail six cases showing the coexistence of tabes with malaria, and six cases where the malarial history was associated with disseminated sclerosis. Besides these, he had notes of three other cases of multiple sclerosis, two of locomotor ataxia, and one of lateral sclerosis with a similar relation. Generally the malarial poison was present in the system previous to the development of spinal symptoms. He pointed out coincidences in the course of syphilis and malaria, such as the slowness of action of the poison and amenability to treatment; and also called attention to the relation of the syphilitic virus to tabes. He had found but little to support his etiological theory in literature. Erb, following Schulze, had stated that tabes may occur as a sequel to intermittent fever. Tuezek had proven that tabes could be caused by the ergot parasite. Many nervous disorders are undoubtedly due to malaria, such as neuralgias, anæsthesias, severe psychoses, etc. He alluded to the deposition of pigment in the brain in some cases of pernicious malaria. It would be very important for many army pensioners if it could be definitely determined that tabes and sclerosis might be sequelæ of malaria.

Dr. N. F. Brill said that his attention had never before been directed to the possibility of such a relation, but he thought the details presented were rather too meagre for an absolutely correct decision to be made in the matter. As neuritis and malaria were frequently associated, possibly some of these spinal cases might be coincident in the same manner. Both malarial and cord disorders are very common.

Dr. L. C. Gray saw no reason why the malarial poison should not cause spinal diseases. We do not yet know the exact character of the poison. But there is a sort of periodicity in many spinal and cerebral disorders, as well as in peripheral nervous affections, which is often as marked as that of fever and ague. He had noticed this particularly in intracranial syphilis. Some of these neuropathics were even relieved by quinine, as he had observed in cases of tabes. When we speak of latent malaria, and rest our diagnosis merely upon periodicity, there is danger of error. If Laveran and Councilman were right in their discovery of the malarial germ, this should be looked for in such cases as the author had described, in order to corroborate with certainty the diagnosis. Improvement or recovery under the use of quinine was no criterion.

Dr. E. C. Spitzka saw nothing in the nature of the case to forbid an etiological association between malarial and cord disorders, but he agreed with the preceding speakers that sufficient proof of such relation had not been adduced. To show an etiological significance, it was necessary to present absolute and intrinsic proof of it. If it could be shown that, as in syphilis, there were at the time of the malarial attack nervous symptoms, it would be a different matter. In the secondary fever of syphilis there was absence of the knee-jerk. Most nervous symptoms in malaria were of a neuralgic character. The anæsthesias differ from those of tabes. It had been found that pigmentary thrombosis or embolism were the most frequent causes of serious nervous disturbances in malaria. He believed, however, that like any other cachexia, antecedent malaria might predispose to spinal affections. He had observed a case of paretic dementia of the tabetic type which was probably influenced etiologically by severe malaria.

Dr. H. M. Lyman, of Chicago, could recall but two cases where it had been intimated to him that the origin of tabes had been malarial. In one he traced

the actual cause to a subacute spinal meningitis coming on after exposure to wet and cold. The other case, instead of being true tabes, had proved to be a rheumatic neuritis. He had, in his experience, seen nothing to support the idea of a malarial etiology in tabes. A complete and perfect history, together with a microscopical examination of the blood, should be required for an indisputable diagnosis of malaria.

The PRESIDENT could not recall a single case of tabes or multiple sclerosis which presented any relation to malaria.

DR. PRINCE thought there could be no question as to the correctness of diagnosis as regarded the nervous symptoms in his cases; and as to the antecedent malaria, all of his cases were men who had been in army service, and he had documentary proof of their having suffered from that poison, in the shape of government records. The really doubtful question was whether the malarial poison still existed in the system at the time of the development of the spinal disorders. In some of them there was evidence of its persistence in the shape of typical malarial rigor and pyrexia. He did not consider his etiological explanation decisive, but merely suggestive.

DR. SPITZKA thought that there were many cases of nervous disease owing their origin to exposure during the war which were contemptuously rejected by the Pension Bureau. It seemed to him that the Association ought to call the attention of the government to the great injustice which might be done.

The PRESIDENT, although once an army surgeon and therefore prejudiced in favor of the soldiers, had been on the contrary struck by the vast number of fradulent nervous cases which were awarded pensions.

Dr. W. M. Leszynsky, of New York, was then elected to membership, and Mr. Victor Horsley and Dr. David Ferrier, of London, were elected to honorary membership. The resignation of Dr. Rockwell, of New York, was accepted.

AFTERNOON SESSION.

DR. B. SACHS, of New York, reported a case of

NUCLEAR OPHTHALMOPLEGIA WITH POLIOMYELITIS (POLIOENCEPHALITIS SUPERIOR AND POLIOMYELITIS).

The relation between these two forms of disease which had been suspected by Hutchinson, Mauthner and others was proven by this case. But one other was on record, that of Seligmuller. The history of the patient was briefly that of a ptosis of the right eye gradually developed, followed after a few months by ptosis of the left eye also, and soon after a paresis of all the external ocular muscles of both eyes appeared. This resulted in almost absolute fixation of the right eye, but left a slight inward and upward movement of the left. There was immobility of the left pupil to light, but not to accommodation. The right could not be examined because of corneal opacity. During the development of this nuclear ophthalmoplegia, a subacute poliomyelitis affecting the entire right leg supervened. There was now marked atrophy of the entire right leg. The knee-jerk was lost on both sides. There were no sensory disturbances. There were no tabetic symptoms and the patient's condition was normal in all other respects. This case proved that the affection of the nuclei in the floor of the third and fourth ventricles was due to the same pathological process which gives rise to poliomyelitis when it affects the gray matter of the cord.

DR. SPITZKA said the report of the case had been so complete and there being but one other such case on record, it did not admit of either criticism or comparison. He referred to Thomsen's case of unilateral nuclear paralysis, where there was a gummatous infiltration on both sides, and the explanation of which was to him quite impossible.

DR. SACHS asked if fibres could be traced up through the ciliary nuclei.

DR. SPITZKA answered in the affirmative and made blackboard drawings illustrative of their course.

DR. W. N. BULLARD, of Boston, then presented for Dr. J. J. Putnam a skull which was a remarkable example of

HYPEROSTOSIS CRANII.

The case had been reported to the Association two years ago. The patient was a woman thirty-one years old at death. The chief symptoms were headache, broadening of the head, dropping out of teeth, loss of hearing, vertigo, beginning some years ago. There was extreme exophthalmos. There were no retinal changes. Extensive pachymeningitis was discovered at the autopsy. There was thinning and atrophy in parts of the skull. The orbital cavities were greatly diminished in size. Virchow considered hyperostosis cranii due to inflammatory changes. In this case probably the inflammation originated at the ear. Dr. Putnam had a patient now with similar symptoms, in whom the exostoses were first noticed in boyhood, and desired the opinion of members as to the justifiability of removal of certain exostoses for the relief of pain. Dr. Bullard himself thought it might be difficult to determine which of the exostoses produced the pain. Some of the exostoses were very diffuse and the operation might have to be extensive.

The PRESIDENT believed that the pain would be more apt to originate from basal lesions, possibly dural inflammation about the issuing nerves. The jaw in this case was interesting because of its senile conformation and angle, despite the youth of the patient.

DR. W. M. LESZYNSKY, of New York, read a paper entitled

SPONTANEOUS DEGENERATIVE NEURITIS OF THE BRACHIAL PLEXUS.

The patient was a laborer, age thirty-eight. He first had pain in the left shoulder shooting down the arm which was ascribed to exposure to wet. There was then no involvement of the shoulder joint and the motility of the arm was unimpaired. All the muscles reacted well to faradism, except the deltoid which was atrophied. There was no sensory disturbance, but there was pain on pressure. Gradually another muscle became paralyzed, until a large number of the arm muscles were useless. The paralysis was accompanied by pain so excruciating that the patient could not sleep at night. A feeling of numbness extended from the shoulder down the arm over the radical distribution, and a gradual anæsthesia and analgesia supervened throughout the same area. The faradic excitability disappeared, and there was galvadic hyperexcitability. Then he began gradually to improve and will ultimately recover. The case was remarkable in its severity, in its idiopathic origin, and in the escape of the median and ulnar nerves from the inflammatory pro-

cess. Not more than one case had to his knowledge been found in literature.

DR. PRINCE thought it would be difficult in the early stages of such a case to distinguish it from progressive muscular atrophy of the shoulder type. He recalled a case of his own in which there was every reason for considering it to be neuritis. It began with cramps such as are observed in writer's cramp, and it was several years before other symptoms proved the case to be one of progressive muscular atrophy. The most common cause in such cases as the author's, was traumatic arthritis, but generally the results are slight.

DR. W. R. BIRDSALL had seen this case before, and was impressed with the idea that it might be a periarthritic affection, but the author's careful study of the case seemed to exclude this. He recollected that at that time there was some anchylosis of the shoulder joint in the case.

The PRESIDENT considered the study of the differing resistances in the healthy and diseased arm made by the author interesting, and asked if any member had had experience in such measurements.

DR. GRAY had noticed much variation in resistance in many of his patients from day to day.

DR. STARR had measured the resistance in Basedow's disease, and had found it to vary within a thousand ohms in the same cases from time to time. Electricity was diffused through muscular better than any other tissue. The chief resistance was in the skin. Probably but little of the current permeated nerves, and hence alterations of nervous tissue would not have much to do with the variations mentioned by the author.

DR. G. M. HAMMOND stated that it was well-known that the resistance differs from day to day in animals. He asked if in this case it had been measured for a number of times, and was answered that eight trials had been made.

DR. BIRDSALL thought the question of resistance had little to do with our study of disease. It was easy to explain the numerous variations, by the wide differences in vascularity and moisture of the tissues at different times. It might be due in this case to paralysis affecting the physical condition of the tissues. The saturation of the epidermis by perspiration would explain the variations mentioned by Dr. Gray. He had made measurements in cases of Basedow's disease some time ago, and believed the diminished resistance found due to the moisture of the skin. It could not depend on dynamic conditions in the nervous system, but was purely a matter of physics about which there was no great mystery.

DR. GRAY said the explanation by moisture of the skin was not applicable in his cases. The differences which he had observed were not owing to the humidity of the atmosphere, although atmospheric conditions might possibly induce dynamic changes in the body.

DR. SACHS pointed out that on one day the author's case showed 580 ohms increase on the diseased side, and on another day 1,170 ohms increase on the sound side. Such variations evidently had little to do with the pathological process in the patient. Eulenburg had measured the resistances in cases of paralysis agitans and of Basedow's disease, but without any practical results. As such measurements were very complex, they required exceedingly great care.

DR. PRINCE objected to the use of the palm of the hand for precise experimentation, owing to the great variability of the thickness of the skin, and consequently of the resistance. He thought the forearm ought to be used.

DR. LESZYNSKY had not brought forward the question of resistance in this case as a diagnostic symptom. It was increased in the affected arm at every examination. With subsidence of the symptoms the resistance gradually diminished, but there was a difference between the sound and morbid side throughout the disease. As to the question of moisture, there was excessive perspiration upon the paralyzed arm, while the normal arm was dry, in spite of which the resistance was greater upon the former. He thought it better to place the electrode upon the wrist than in the hand. There was no antecedent traumatism in the case; the roughening of the shoulder joint was the result of the paralysis.

DR. M. ALLEN STARR, of New York, then presented a specimen of an

INTERPEDUNCULAR MYXOSARCOMA.

It lay in the middle cranial fossa in the median line between the crura cerebri which it separated. It extended into the lateral ventricles, separating widely the caudate nuclei and optic thalami. The patient was a male, aged twenty-one months at death. At the age of thirteen months, in October last, a lateral nystagmus had been observed in both eyes varying from time to time. Drs. Knapp and Roosa found a slight pallor of the optic discs which they considered normal. Later exophthalmos developed, gradually increasing until death. Convergence of the eyes was impossible, although no paralysis of a cranial nerve was discoverable. The reflexes of the iris were lost. Towards the middle of April this year, the child became unable to walk. The knee jerks were exaggerated, there was ankle clonus, and typical spastic rigidity. Finally the back could not be held up, and later the head could not be supported. There was gradual emaciation. There was no apparent headache. From time to time the scalp was congested. About this time the pallor of the optic discs indicated atrophy. There was no blindness, no hemiopia, no aphasia as far as could be ascertained in so young a child. Towards the middle of May, ataxia of the arms developed, but without the loss of muscular power. On June 8th, vomiting and Cheyne-Stokes respiration came on, and the child died in nine hours. The diagnosis of the tumor had been made, but the question of localization was of great interest. Nystagmus was not a localizable symptom, but had been found most freqently in lesions of the corpora quadrigemina. The exophthalmos indicated intracranial pressure; the gait disturbance led one to think of a cerebellar lesion; while the ataxia of the hands pointed to a basilar trouble affecting symmetrically either the pons or the medulla. The question of operative interference had been considered, but he had opposed that proposition because of the difficulty of localizing the tumor. The autopsy proved that the pons was not even pressed upon, and that the cerebellum was normal. There were twenty ounces of fluid in the ventricles. He would ask if there was any localizing value in nystagmus or exophthalmos, and what was the probable cause of the ataxia?

The PRESIDENT in referring to the question of ataxia recalled a case of remarkable bilateral ataxia with optic atrophy, where a large interpeduncular tumor was

found between the crura. He thought such ataxia was to be accounted for by pressure upon the motor tracts or motor nuclei. To him the most puzzling feature of Dr. Starr's case was the absence of blindness. As to the nystagmus, it had as yet in his opinion no localizing value. He had seen two cases with lesions of the quadrigeminal bodies but without nystagmus.

DR. LESZYNSKY said the child may have had only central vision which might explain the presence of nystagmus, but Dr. Starr answered that the visional fields were normal.

DR. SACHS was reminded of Meynert's case of tumor in both optic thalami with ataxia similar to that of Dr. Starr's case. He thought the thalami might have been pressed upon in the latter, but still was not sure that would cause the ataxia. He considered nystagmus very frequent in many central disorders of children.

DR. H. M. LYMAN referred to a case he had seen recently of defective cerebral development in a child where there was also nystagmus.

DR. GRAY asked how a diagnosis of intracranial tumor had been made so early in this case, and was answered that the diagnosis had not been made until all the symptoms described had made their appearance.

DR. HAMMOND thought ataxia depended upon injury to the optic thalami or corpora striatai and referred to a case of Weir Mitchell's, in which there was a remarkable unilateral ataxia with a lesion of the optic thalamus and corpus striatum upon the opposite side.

DR. LESZYNSKY saw a child several years ago with well-marked nystagmus which disappeared in the course of time. There was no discoverable cause.

The following gentlemen were then elected to active membership: Dr. C. Eugene Riggs, of St. Paul, Minn.; Dr. H. S. Upton, of Cleveland, O.

(To be continued.)

— In summing up the Maybrick case, Justice Stephen's remarks were rather severe upon "expert testimony," medical and other. He warned the jury about the uncertainty of medical science, or rather art, and reminded them of the old saying which described "a doctor" as "a man who passed his time in putting drugs of which he knew little into a body of which he knew less." He also had a fling at the experts in other fields who appear before parliamentary committees and the like. He said a man going on the stand, and "calling himself this, that, or the other, by no means qualified him to receive unhesitating belief." "A great deal of what he might call scum had to be taken off the testimony of skilled witnesses, for — of course, probably insensibly to themselves — they were apt to become advocates rather than witnesses."

— A species of fraud which it would be difficult for any "confidence man" to imitate in this country has lately been made the subject of judicial investigation in England, where a doctor has been making a practice of buying medical practices, holding them a little time and then selling out at a large premium on the strength of false representations as to their value. He bought one for £250, and sold it in thirteen months for £650. Another was purchased for £297 and one-half of it was sold to a partner for £500.

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THE INFLUENCE OF MICROBICIDE MEDICINES IN THE TREATMENT OF PHTHISIS PULMONALIS.

FOR a time subsequent to Koch's discovery of the microbic origin of tuberculosis the special attention of experimental therapeutists was directed to the various antiseptic methods which it was hoped might rid tuberculous subjects of the germs whose depredations in the pulmonary textures constituted phthisis pulmonalis. Inhalations took a prominent place; creasote, carbolic acid, sulphuretted hydrogen, eucalyptus, turpentine, hydrofluoric acid, have all had their advocates and their day. Bergeron's gaseous rectal injections of hydrogen sulphide were given with the same intent, the belief being entertained that the hydrogen sulphide introduced by the rectum would, in being eliminated by the pulmonary mucous membrane, destroy the tubercle bacilli there pullulating.

It must be confessed that the results of the germicide treatment have not been what was hoped. Experiments in the laboratory seemed to have shown that fluorhydric vapors were especially obnoxious to the tubercle bacilli. Hippolyte Martin had signalized the parasiticide effect of this acid, which in the proportion of 1 per 4000, appears to be destructive to Koch's bacillus. Jaccoud's laboratory experiments, it is true, were contradictory to those of Martin. Leiter and Garcin, subsequently Gautrelet, published papers in which the curative benefits of fluorhydric inhalations were vaunted; but other clinicians failed to confirm these results. Thus, during the course of the last year, Grancher and Chantard undertook a double series of experiments to test the value of fluorhydric inhalations in phthisis. In the first series, they came to the conclusion, "that the action of the vapors of fluorhydric acid on the evolution of experimental tuberculosis is *nil*." This conclusion was only strengthened by the results of the second series, where they studied comparatively the effects of pure tuberculosis cultures, and of cultures previously subjected to hydrofluoric

acid in increasing concentration from ten per cent. up to a state of purity.

Dr. Marcellin Cazaux, in a recent article in the *Journal de Médécine*, well sums up the present state of science, when he says that phthisis is rather a question of a particular *terrain* (culture soil) than of a bacillus. Phthisis is not like syphilis, the virus of which is capable of undergoing evolution in any soil. The micro-organism of tuberculosis does not attack all persons, it selects its subjects. The individual who finds himself in condition about normal of organic equilibrium, resists with success and *burns* the bacillus, when the latter penetrates his air-passages. For this reason, tuberculosis is the least contagious of all the microbe-diseases. In short, "the question of *terrain* [soil] is primordial and fundamental; it occupies the first place in prophylaxis and treatment, and no therapeutist can do good work in combating phthisis who does not set out from this stand-point.

Such being the case, it is evident that the first thing to do in treating phthisis is to modify the culture soil so that it will be refractory to the bacillus. Here the principal reliance must be on reconstituents and tonics. Dr. Cazaux places great importance on "superabundant alimentation, and the greatest possible quantity of pure air." Residence in the open air, when the weather will permit, and especially residence in high altitudes (from 700 to 1,600 metres), is one of the principles of successful treatment. On all suitable occasions, the windows of sleeping-rooms should be left open at night. He remarks that one will tolerate in a horizontal position, and consequently in bed, temperatures which seem severe when one is sitting or standing. Dr. Cazaux cautions against sending to elevated stations patients with advanced lesions and with fever.

The medicinal treatment, while not to be neglected, is only of secondary importance; at the same time, under the use of the classical remedies, cod-liver oil, arsenic, creasote, tannin, alcohol, one will often witness an augmentation of weight and favorable modifications in the local signs. As adjuvants, inhalations, now no longer relied on as curative, may produce some ameliorations.

In the discussion which followed the reading of Cazaux's paper (*Société de Médecine Pratique*, June 6, 1889), there was a general consensus that generous alimentation, exercise in the open air, pulmonary gymnastics in elevated regions, offer the best conditions for obtaining, if not the cure, at least the amelioration of phthisical patients. Some were of opinion that inhalations, especially of hydrofluoric acid, possess considerable efficacy, exciting the appetite, diminishing expectoration, and sometimes hæmoptysis, and promoting nutrition. In cases of early phthisis, climatotherapy, and the mineral water cure are often of great utility. The sulph-sodic mineral waters (Eaux-Bonnes), the sulph-sodic-iodo-bromureted (Guyot), and the arseniated-sodic (Bourbole), were especially commended. One speaker (Guelpa) alluded to the "astounding fallacy" of the hot-air-respiration cure of phthisis. Very rigorous experiments have proved that by reason of evaporation, the air which penetrates the lungs immediately undergoes a relative cooling, and the expired air is never 40° C. at the most, the air that enters the lungs is not raised above one degree in temperature, consequently Koch's bacillus, which is arrested in its evolution when the surrounding temperature is above 42° C., is in no way influenced by inspiration of hot air.

Per contra, in Cochin Hospital, hot-air inhalations have been tried with very uncertain results, so that Dujardin-Beaumetz is forced to tell us that we must fall back upon *sur alimentation* and hygiene. "After alimentation in importance comes climate. Oxygenation is the great point, and as much open air as possible, no matter where it is, but best when the temperature is not over 60° F. in winter." "In a word we have to confess," says Beaumetz, "that we are reduced to alimentation and respiration of pure air in this disease."

TUMORS IN ANIMALS.

TUMORS in animals, though not so common as in man, are far from being rare. A very great number of observations on the subject has been published, particularly of tumors occurring in the domestic animals. The study of such new growths offers many points of interest as to their relations with tumors in the human species in etiology, pathology, evolution and treatment. A monograph on the subject has recently appeared in the *Revue de Chirurgie*, in which Dr. Plicque has availed himself of the studies of many veterinarians to construct a most instructive article.

This article of Dr. Plicque's contains many very interesting observations and remarks, which have a more or less direct bearing upon human pathology. The importance of irritation as a cause of the so-called cancer of the lip is shown in animals. This disease, so frequent in man, is also very common in the horse and the cat, but with remarkable difference in situation. In man, the lower lip is the almost invariable site. In the horse, the disease is situated almost invariably at the commissure, the point where the bit chafes; while in the cat, the upper lip is more often diseased than either the lower lip or the commissure, that being more exposed to injury than the lower lip from its greater size and from the fact that it covers and protects the lower.

Heredity is of some importance in the etiology of tumors in animals, especially in the melanosis of the horse. Its influence is so manifest, that melanotic horses should not be employed for breeding purposes. Melanosis, when hereditary in horses, appears at a younger age than in other conditions.

Melanosis, a variety of tumor so malignant in man, is far nearer the innocent type in animals, especially in the horse. A melanotic nodule on a spot subject to irritation by harness, sometimes disappears when the harness is so adjusted as to no longer irritate the

new growth. The retrograde process has even been observed after the growth has begun to ulcerate. Other tumors, especially sarcoma and carcinoma, are often more intensely malignant in animals, especially the horse, than in man. Animals so protected as to live to an unnatural old age are especially subject to cancer. As a predisposing cause of malignant disease, Dr. Plicque believes age to be more important in animals than in man. Bouley, a French veterinary authority of experience, believes, on the ground of long observation, that dogs are doomed to cancer if they live to old age and are not killed by some acute pulmonary or gastro-intestinal affection. The cat, often cherished and kept alive when old and miserable, is also very subject to cancer in age. Statistics show that cancer is far more frequent in the carnivora than in vegetable eaters. This statement, as Dr. Plicque believes, is a capital example of a doctrine, founded on statistics, eminently calculated to deceive. The carnivorous domestic animals, cats and dogs, are preserved usually to the full extent of their natural lives, while the herbivorous horse and cow are usually killed before they have reached the extreme old age, at which cancer is most likely to show itself.

MEDICAL NOTES.

— The Pennsylvania Institution for the Deaf and Dumb and the New York Cancer Hospital are both to be enlarged.

— Among the active old men is to be classed, according to a contemporary, his Holiness Leo XIII, who is eighty-two years old, and active, robust and hearty for one of even a less advanced age, and he speaks of himself in far more promising terms than he did twelve years ago, when he told his friends it would be useless to make him Pope, for he had only a few months to live, and his appearance then did not belie his words.

— As we learn from the *Medical Record*, the German physicians have adopted a code of ethics. On June the 24th the seventeenth Congress of German Physicians met at Brunswick, and passed the following resolutions: (1) Every kind of public laudation, whether it proceeds from the physician in question himself or from others, and continued advertising in public papers are to be reprobated. (2) The designation "specialist" for puffing purposes is to be reprobated. (3) The public offering of medical assistance gratis, underbidding in concluding contracts in sick societies and the like, offering advantages of any kind to a third person in order to procure practice, are inadmissible. The designation "Klinik" and "Poliklinik" (hospital) belong exclusively to institutions which serve the purposes of instruction in connection with universities. (4) The ordering and recommending of secret remedies are inadmissible. (5) Any attempt of any kind on the part of a physician to intrude upon the practice of another is dishonorable, especially in the case of one who has acted as substitute or in consultation. A practitioner must by no means undertake the treatment of the case without the express assent of the previous physician. A specialist called in for a definite part of the treatment must strictly confine himself to that. (6) No physician is at liberty to make disparaging remarks to others about another physician.

— Dr. Rickets, of Cincinnati, in the course of a paper read before the Cincinnati Obstetrical Society on the "Abuse of Pessaries," said:

"A prominent obstetrician of Cape Town told me recently that while he was on his way to see a patient he was called in and urged to attend a lady in labor, as her obstetrician could not be found. Upon digital examination he found a large-sized Hodge's pessary, and with difficulty removed it. Finding that the presentation was a normal one, and being in a hurry, the doctor called in an American physician to attend the case, and left the house. After the birth of the child, the American physician wrote the following note to the family physician, and left the house:

"'My Dear Doctor, — Dr. S. delivered your patient of a huge Hodge's pessary, and I have delivered her of a small child.

Very truly, DR. C.'"

— London, says a correspondent of the *New York Times*, has 81 hospitals and 50 dispensaries which are supported by voluntary contributions. These hospitals contain 8,012 beds, of which 5,926 were occupied every day of last year, the number of patients being 74,316. In addition to these, 1,038,427 out-patients were treated at the dispensaries and out-service departments of the hospitals. How many recurrent cases are included in these aggregates it is not possible to discover, but the reports do not suggest that there are any, so that if the statements are absolutely correct they show that fully one in every four of the inhabitants of London receives gratuitous medical treatment when ill, a condition which at least suggests large abuse of this form of charity and want of vigilance in its administration.

During 1888 the total expenditures were (at $5 per pound sterling) $2,813,405, and the total income, not including legacies, $2,544,130; but these legacies amounted to $1,156,920 more, a total of receipts of $3,701,050. Of the regular income, $1,679,665 came from charitable contributions, $636,520 from investments, and $227,945, or 8 per cent. only, from payments by patients.

Superimposed upon the foregoing is a vast system of poor law medical relief, where the vast army of practical paupers in London are treated at an annual expense of about $300,000.

BOSTON AND NEW ENGLAND.

— At the Naval Bureau of Medicine and Surgery, bids were offered for the construction of a building for the sick at Portsmouth, N. H. Navy Yard. The lowest bid was $35,000. As the appropriation act limited the cost of the building, including furnishings, to $35,000, no award will be made.

— The Cambridge, Mass., Hospital is made residuary legatee under the will of Mary R. Popkin, of Cambridge, niece of Dr. Popkin, who was for many years a professor in Harvard College.

— Hon. E. S. Converse, of Malden, Mass., has presented to Dr. John L. Sullivan, president of the Malden Medical Society, $12,000 in cash, and a valuable lot of land off Vista Street, in Ward Three, containing four and one-half acres, for the purpose of erecting a hospital. It will be built on a hill, commanding a fine view of the surrounding country, near the Medford line, in one of the healthiest portions of the city and will probably cost when completed $40,000. The association will raise what money they can by giving lectures and entertainments the coming winter season, and it is thought that the hospital building will be commenced early next spring.

— The present week has witnessed the decease of two venerable and respected members of the medical profession, in Boston, Dr. Herman Brimmer Inches and Dr. Le Baron Russell, of whom brief mention will be found in another column. They were contemporaries. The former was a member of the Harvard College class of 1831, having among his classmates the physicians, C. A. Allen, George A. Bethune, Francis H. Gray, George C. Shattuck, and N. B. Shurtleff, besides John Lathrop Motley and Wendell Phillips, and other distinguished men. Dr. Russell graduating from Harvard a year later, was in the class with George Ticknor Curtis, Judge Abbott, Rev. Drs. H. W. Bellows and Charles T. Brooks, and Drs. Estes Howe, Stephen Salisbury and W. W. Wellington. Neither Dr. Inches nor Dr. Russell were compelled by pecuniary necessity to follow the details of medical practice, and both utilized their leisure and their wealth in works of general advantage, educational and philanthropic, for their fellow citizens.

NEW YORK.

DEATH OF ALEXANDER B. MOTT, M.D.

— Dr. Alexander B. Mott, the fourth son of the late Dr. Valentine Mott, died at his country-seat at Yonkers, on the 12th of August. The cause of death was pneumonia and he was ill only two days. He was born in the city of New York, March 21, 1826. A considerable portion of his boyhood and youth was spent in Europe, but he returned to this country to begin the study of medicine in his father's office. He attended lectures successively at the University Medical School, New York, Castleton, Vt., and the New York Medical College; and in 1850 he was appointed surgeon to the New York Dispensary. His first hospital appointment was at St. Vincent's Hospital, of which he was one of the founders, and he was surgeon to Charity Hospital for fourteen years. In 1857, he received the degree of M.D. from the University of Pennsylvania.

Dr. Mott was one of the founders of Bellevue Hospital Medical College, and was Professor of Surgical Anatomy from its organization in 1861 until the year 1872. From 1872, up to the time of his death, he was Professor of Clinical and Operative Surgery. He ranked high as a surgeon, and performed many capital operations. Outside of the profession he was well known in the community and he was one of the leading Masons of the city.

In April, 1861, he organized the medical corps of the militia regiments which were sent to the war from New York, and with the co-operation of a number of prominent ladies founded the United States Army General Hospital in New York, of which he was made surgeon in charge. In November, 1862, he received the commission of Surgeon of United States Volunteers with the rank of Major. In 1864, he was appointed Medical Inspector of the Department of Virginia, and was attached to the staff of General Edward C. Ord. July 27, 1865, he was mustered out of the service with the brevet rank of Colonel.

Dr. Mott's funeral occurred at Trinity Chapel, August 15th, and was largely attended by the public. Among those present were the Faculty of Bellevue Hospital Medical College, and members of the Old Guard, Loyal Legion, New York County Medical Association, various Masonic bodies, and of other organizations to which he belonged. Dr. Mott was a widower, and leaves one son, Dr. Valentine Mott.

Miscellany.

ACTION OF QUININE ON THE PREGNANT UTERUS.

AT a recent meeting of the Glasgow Obstetrical and Gynecological Society, (*Glasgow Medical Journal and Practitioner*, July, 1889), Dr. Robert Park read a note on "The Action of Quinine in Medicinal Doses on the Pregnant Uterus, with an Illustrative Case." Mrs. C., age twenty-seven years, three years married, never pregnant, had consulted him in August, 1886. On examination he found her suffering from retroversion of the uterus, with tender fundus. This was replaced without difficulty, and a Hodge pessary introduced, the relief from which was entire and immediate. She soon thereafter became pregnant. In August, 1887, when about five and a half months pregnant, she was threatened with a miscarriage — considerable discharge with rhythmic pains, which, however, subsided on the administration of opium, with small doses of liq. ergot. ammon.; and on the 31st of December following, she was delivered of a healthy and vigorous female child. On inquiring as to the cause of the hæmorrhage, Dr. Park could elicit absolutely nothing, except that three days previously, she had taken a dose of quinine to relieve a neuralgia. He considered that she must have taken from ten to fifteen grains, from the effects produced on the head. The patient herself stated that, soon after the singing in her ears stopped, she began to feel uneasy about the lower part of the abdomen. The argument put forward by Dr. Park in this case may best be stated in his own words. "As the quinine induced a violent and untoward uterine excitation in this case, by a dose which is a least within ordinary medicinal limits,

though inducing toxic effects in this one particular case, it must, in smaller doses have a distinct, though less obvious, action of the same kind." He believes that all the tonics which have influence over non-striated muscular fibre exert their influence over the uterine muscular system, unless and except when these are the seat of inflammatory hyperplasia.

TUBERCULOSIS AND FOOD-SUPPLIES.

IN an interesting address on "Tuberculosis" recently delivered by Dr. James Niven, medical officer of health for Oldham, before the (English) Association of Public Sanitary Inspectors, the lecturer drew the attention of his audience, says the *Lancet*, to various aspects of tuberculosis, both in the human subject and in some of the lower animals, with especial reference to their bearing on the question of public health. As regards the influence of foods in the production of tuberculosis, Dr. Niven held that every one would probably allow that milk from an animal having tuberculous udders might be infective; and, since there is much difficulty in determining when there is a tuberculous focus of disease in the udder, the milk of tuberculous cows should be always condemned. In this connection he referred to the fact that the owner of a valuable herd of cattle, on finding that a large proportion of his cows were tuberculous, withdrew the milk from the market, and used it, without previously boiling it, for the fattening of his pigs. The result was that the pigs, almost without exception, were so affected with the disease as to necessitate the slaughter of the whole stock. As to the use for food of the flesh of tuberculous animals, the question was regarded as one of greater difficulty. Observation seemed to show that the meat of tuberculous animals — and this especially in the case of chronic disease — did not necessarily convey disease and this although it is difficult to conceive how tubercle bacilli, which are liable to be scattered throughout the body by means of the blood-vessels, can fail to find lodgement in the flesh. Dr. Niven's own opinion is against the use of such flesh as food, although he admits that this by no means constitutes the greatest danger as to tubercle in its relation to food-supplies.

A FATAL CASE OF TOBACCO POISONING BY TOBACCO-SMOKE.

AN unusual case of what was really acute tobacco poisoning, although occurring in a habitual smoker, is described by Dr. B. W. Richardson, from his own observation, in the *Asclepiad*.

The patient, who was between thirty and forty years of age, was a small but well-built man, of very active habits, and reported to be exceedingly diligent and able in commercial pursuits. Previous to the occurrence about to be narrated he had been very much worried with business affairs, and had, no doubt, been trying to carry out labors which, if not beyond his own natural powers, at all events taxed them severely. He returned from business in the city of London one evening extremely fatigued, took a very slight meal, smoked several cigars and cigarettes, the precise number being unknown, and retired to bed. During the night he was heard moving about as if restless, and early the next morning rose to work. He dictated some letters and other documents to his private secretary, and declining all food, recommenced to smoke a cigar. He continued this process of smoking and dictating during the greater portion of the day, taking no food and, except a small quantity of brandy and water, no drink. In a period of less than twelve hours he had smoked forty cigarettes and fourteen full-sized, full-flavored cigars. As the evening advanced he became prostrate, excited, and restless, refusing food and only sipping at drinks. Late at night he still refused to take either nourishment or medicine. He agreed, however, to give up smoking, and he went to bed and essayed for a few hours to sleep: he could not sleep and continued excited and restless.

Early on the following morning he was seen. He was at this time half-dressed and out of bed. He was in a state of continuous muscular tremor, and when he moved across the room to reach his bed his legs seemed bent or bowed as if he were permanently deformed, which, however, was not the fact. He had evidently lost the full use of the muscles of the lower extremities, and he climbed into bed with considerable difficulty. When he reclined in the bed a continual movement of the muscles of the arms and legs was kept up, and the facial muscles moved occasionally in an involuntary manner. The pupils were widely dilated, and the eyelids were in persistent movement, half voluntary. The tongue was dry and dark red in color. The surface of the body was cool (96° F.), clammy, and perspiring. The speech was faltering and the mind uncertain. The pulse was soft, full, and feeble. Both sounds of the heart were clear, but the action was relaxed and occasionally intermittent. The respiratory sounds, at this period, were clear, but the respiratory movements were irregular and sighing. The breath and cutaneous secretion were oppressively charged with the odor of tobacco.

All further resort to the cigars and cigarettes was strictly forbidden, and fluid nourishment was ordered as freely as it could be given, together with small quantities of alcohol; it was directed that the temperature of the room should be sustained at 70° F., with free ventilation; and, in order to sustain the process of elimination, full doses of the solution of acetate of ammonia were administered every four hours. It was also carefully observed that the urinary bladder should be kept free of distension from urine, a practical point of great importance in the treatment of all forms of narcotic poisoning.

The food and medicine prescribed for the patient were much objected to by him, his mind being entirely listless and every exertion seeming to be a source of annoyance. Still, he took and retained some food, and under its influence became warmer. But as the day advanced he grew gradually more and more unconscious, the muscular paralysis increased, extending from the lower limbs to the arms; every now and then there occurred a faint general convulsion, and the breathing became noisy and embarrassed. In the evening the patient was quite unconscious; his bronchial passages were filling with condensed watery fluid; he was unusually cold; there were constant jactitating movements of the muscles, and the collapse was complete. Death took place a short time after this change. A post-mortem examination could not be obtained, but the final mode of death was evidently by asphyxia from the accumulation of fluid in the pulmonary bronchial tract.

THE FASHIONABLE CONSULTING PHYSICIAN.

THE following view of the popular consulting physician is given in *Blackwood's Magazine.*

"They sit for a great part of each day at the receipt of custom, tossing the sovereigns and shillings into the drawer, where they are decorously put out of sight: pronouncing peremptorily on the destinies of their miserable fellow-creatures, scattering broadcast sentences of death or slow torture, consolation under mitigating conditions, reprieves, or plenary absolution. Custom may lighten the weighty load of their responsibilities, but surely all the same it must sometimes sit heavily on them. For, after all, they are human like the patients, and occasionally they must themselves be out of condition and far from feeling up to the mark. Case after case and often for the first time, is brought panoramically beneath their observation, and each minute is precious when there are so many to be advised. They are invited at a moment's notice to diagnose the origin and the course of complicated and obscure diseases; they are asked in the way of ultimatum all manner of embarrassing questions as to methods of treatment and probable results. They must answer the main questions to the best of their ability, and if they do not actually put forward claims to infallibility they are bound professionally to speak with the assurance attaching to their position. As a rule they are sympathetic and strive to soften down unfavorable opinions, but there are desperate cases, and not a few of them, in which it would be cruel kindness to conceal the truth. The mother who brought a daughter she fancied was merely delicate, lifts herself in speechless anguish into the dismal four-wheeler in the conviction that her child is in a hopeless decline. How the sun has been darkened to her during the last long hour or two! and, like Scott standing over the grave of John Ballantyne, she feels it will never again shine on her so brightly as before. The husband who thought there was nothing serious the matter with his young wife reads solemn warnings in the ambiguous prognostications of the oracle, and, striving manfully to master his vague apprehensions, knows well that his wedded happiness is at an end."

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 10, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	838	417	30.84	11.28	24.84	1.20	2.28
Philadelphia	1,040,245	492	145	23.20	10.80	15.00	5.40	1.40
Chicago	830,000	396	237	44.01	—	31.51	2.70	7.02
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	230	124	26.66	9.46	24.94	1.29	—
St. Louis	450,000	152	63	18.48	11.22	13.20	1.32	1.98
Boston	413,567	218	90	27.60	15.18	22.54	—	2.30
New Orleans	250,000	103	34	19.40	14.55	8.73	—	2.91
Cincinnati	225,000	118	—	22.20	7.00	12.65	2.55	7.00
Washington	225,000	—	—	—	—	—	—	—
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	—	—	—	—	—	—	—
Charleston	60,145	40	22	22.50	10.00	17.50	2.50	—
Portland	40,000	14	6	35.70	7.14	35.70	—	—
Worcester	78,292	42	23	38.08	4.76	28.94	—	—
Lowell	71,518	36	20	47.25	8.34	41.70	—	2.78
Cambridge	65,552	40	19	37.50	10.00	25.00	—	12.50
Fall River	62,647	49	29	57.12	10.20	48.96	4.08	—
Lynn	53,334	21	—	—	42.84	—	—	—
Springfield	40,731	13	6	46.14	—	15.38	—	15.38
Lawrence	40,619	23	10	29.12	4.16	20.80	4.16	4.16
New Bedford	37,253	18	6	38.85	5.55	33.33	5.55	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	19	9	15.78	10.52	10.52	5.26	—
Brockton	28,813	—	—	—	—	—	—	—
Chelsea	28,167	12	4	16.66	16.66	16.66	—	—
Haverhill	26,058	12	8	33.33	16.66	33.33	—	—
Taunton	25,170	—	—	—	—	—	—	—
Gloucester	24,263	5	1	20.00	20.00	20.00	—	—
Newton	21,553	8	5	25.00	12.50	12.50	12.50	—
Malden	19,774	7	2	14.28	28.56	14.28	—	—
Fitchburg	17,534	7	4	57.12	42.84	57.12	—	—
Waltham	17,332	3	2	33.33	—	33.33	—	—
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	5	1	—	40.00	—	—	—
Quincy	13,728	6	3	16.66	16.66	16.66	—	—

Deaths reported 2928: under five years of age 1290; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas, and fevers) 861, consumption 288, acute lung diseases 127, diarrhœal diseases 654, diphtheria and croup 80, typhoid fever 62, whooping-cough 26, measles 13, malarial fever 12, scarlet fever 11, cerebro-spinal meningitis 2, erysipelas 1. From whooping-cough, New York 14, Boston 5, Philadelphia, Worcester and Springfield 2 each, St. Louis 1. From measles, Chicago 6, New York 3, Philadelphia, St. Louis, Boston, Lowell, 1 each. From malarial fever, New Orleans 8, Chicago 2, Baltimore and Charleston 1 each. From scarlet fever, New York 4, Philadelphia 3, Fall River 2, Chicago and St Louis 1 each. From cerebro-spinal meningitis, Chicago and Worcester 1 each.

The meteorological record for the week ending Aug. 10, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.		Velocity of Wind.		State of Weather.[1]		Rainfall.	
Saturday, Aug. 10, 1889.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	2.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 4	30.07	75.0	82.0	68.0	77	62	70.0	S.W.	S.W.	5	12	C.	C.		.0
Monday,.. 5	30.09	66.0	70.0	61.0	85	95	90.0	S.W.	N.W.	4	2	O.	O.	5.50	.12
Tuesday,.. 6	30.18	64.0	70.0	59.0	71	87	79.0	N.W.	S.E.	8	8	C.	C.		.0
Wednes. .. 7	30.11	68.0	77.0	60.0	71	77	74.0	N.W.	O.	6	0	C.	C.		.0
Thursday,. 8	30.18	64.0	72.0	55.0	60	71	66.0	N.	S.	8	11	C.	C.		.0
Friday,.... 9	30.14	70.0	78.0	61.0	82	86	84.0	S W.	S.W.	12	12	O.	R.	0.05	.T
Saturday,. 10	29.88	72.0	80.0	64.9	83	69	76.0	S.W.	N.	8	8	O.	C.	2.40	.22
Mean for Week.	30.08		75.0	61.0			77.0							7.95	.34

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 10, 1889, TO AUGUST 16, 1889.

By direction of the Secretary of War, a Board of Medical Officers to consist of Lieutenant Colonel ANTHONY HEGER, surgeon; Captain JOHN O. SKINNER and Captain JAMES C. MORRILL, assistant surgeons, will assemble at the U. S. Military Academy, West Point, N. Y., on August 25, 1889, or soon thereafter as practicable, to examine into the physical qualifications of the candidates for admission to the academy. Par. 9, S. O. 185, A. G. O., August 12, 1889.

Leave of absence for one month is hereby granted Major William H. Gardner, surgeon U. S. Army, Washington Barracks. Par. 1, S. O. 183, Headquarters Division of the Atlantic. Governor's Island, New York City, August 13, 1889.

Major WASHINGTON MATTHEWS, surgeon in U. S. Army, promoted to surgeon U. S. Army, with rank of major, to take effect from the tenth day of July, 1889. Vice Town, promoted. War Department, Washington, D. C., August 14, 1889.

Leave of absence for one month, to take effect about October 1, 1889, with permission to apply to Division Headquarters for an extension of one month, is granted Captain VALERY HAVARD, Assistant Surgeon, U. S. Army. Par. 3, S. O. 86, Department of Dakota, St. Paul, August 10, 1889.

By direction of the Secretary of War, Captain JOSEPH Y. PORTER, assistant surgeon, now at Jacksonville, Florida, will, if the state of his health will permit, proceed to Jackson Barracks, Louisiana, and report to the commanding officer of that post for temporary duty, and by letter to the commanding general Division of the Atlantic. Par. 16, S. O. 186, A. G. O., August 13, 1889.

By direction of the Secretary of War, the leave of absence is granted Captain WM. C. GORGAS, assistant surgeon, in S. O. 84, July 3, 1889, Department of the Missouri, is extended two months. Par. 2, S. O. 182, A. G. O., Washington, August 8, 1889.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING AUGUST 17, 1889.

B. F. ROGERS, surgeon. Detached from U. S. S. "Alliance," and wait orders.

G. E. H. HARMON, surgeon. Ordered to the U. S. S. "Constellation." August 13th.

C. H. P. LOWNDES, assistant surgeon. Ordered to the U. S. S. "Constellation." August 13th.

C. J. DECKER, assistant surgeon. Detached from U. S. S. "Lancaster," and granted four months leave of absence.

L. B. BALDWIN, past assistant surgeon. Detached from U. S. S. "Ranger," ordered home and wait orders.

H. P. HARVEY, surgeon. Ordered to the U. S. S. "Ranger."

P. A. LOVERING, past assistant surgeon. Ordered to the receiving ship "Wabash," at Boston.

C. A. SIEGFRIED, surgeon. Ordered to the Naval Station at New London, Conn.

SOCIETY NOTICE.

FIFTH DISTRICT BRANCH NEW YORK STATE MEDICAL ASSOCIATION.— The Seventh Annual Meeting of the Fifth District Branch will be held in the Fowler House, Port Jervis, at 2 P. M., on Tuesday, August 27, 1889. Scientific Papers: Some Observations on the Use of Concentrated Lactic Acid, by W. B. Eager, M.D.; The Treatment of Typhoid Fever, with special reference to the Cold Water Method, by J. H. Hunt, M.D.; Presentation of a Case of Empyema, by H. B. Swartwout, M.D Presentation of Specimens. Voluntary Communications.

OBITUARY. JAMES L. CABELL, M.D.

DR. JAMES L. CABELL, senior member of the Faculty of the University of Virginia, died at Overton, Va., August 13th. He was born in Nelson County, Va., in August, 1813, and was graduated when twenty years old from the University of Virginia, and subsequently filled the chair of Anatomy and Surgery in that institution. He had charge of the Military Hospitals of the Confederacy during the Civil war, and he was Chairman of the National Sanitary Conference at Washington during the yellow fever epidemic at Memphis, and was later President of the National Board of Health. He was the author of "The Testimony of Modern Science to the Unity of Mankind."

OBITUARY. LE BARON RUSSELL, M.D., M.M.S.S.

Dr. LE BARON RUSSELL, a well-known resident of Boston, died at his summer residence in Plymouth, August 19th, after a long illness.

Dr. Russell was a native of Plymouth, and was born July 29, 1814. His father was Nathaniel Russell, who was largely engaged in iron manufacturing at that time. Entering Harvard College, he was graduated in 1832. He graduated from the Harvard Medical School in 1836, and became a member of the Massachusetts Medical Society in 1842. He studied medicine abroad, and for a time practised his profession in Otis Place, Boston, but having ample means, he devoted the greater part of his life to work of public utility, educational and otherwise. He never married. An early abolitionist, he was actively interested in making Kansas a free State. He was stanch in his support of the Union during the war, and was a warm friend of the negro race, doing much to aid the establishment of colored schools in the South. He was for many years a member of the Boston School Committee, showing particular interest in the normal school. He also gave much attention to the training-school for nurses. He served on the Board of Trustees of Harvard College for twelve years, and at the time of his death, was one of the Trustees of the State Lunatic Asylum at Taunton. Dr. Russell numbered among his friends Thomas Carlyle, whose work "Sartor Resartus," he was instrumental in introducing to an American public through an American publishing house.

OBITUARY. HERMAN B. INCHES, M.D. M.M.S.S.

DR HERMAN BRIMMER INCHES, a well-known resident of Boston, and the last occupant of a residence on Tremont St. — once the most attractive locality in Boston for private families — died August 19th, in the seventy-seventh year of his age. He came of a well-known Boston family, and was a member of the class of 1822, in the Boston Latin School, and was graduated from Harvard College in the distinguished class of 1831, which included his life-long neighbor, the late Dr. George Bethune, and many other well-known citizens. He received his degree of M.D., in the Harvard Medical School in 1834, and studied medicine with Dr. Warren.

Original Articles.

A FEW CASES OF SPASM.

BY S. G. WEBBER, M.D.

THE great variety in the character of the convulsive action in cases of spasm is one of the interesting features of that morbid condition. The following cases seem of sufficient interest in this respect to report. I do not intend to explain their causes nor their nature, only to give the chief clinical features, which may find their counterpart in the practice of others.

The first case is one of those peculiar convulsive affections which has received the name of paramyoclonus multiplex. This case is of special interest because occurring in a woman, most of the patients having heretofore been men.

Dr. Allen Starr (*Journal of Nervous and Mental Diseases*, July, 1887), has given a very full *résumé* of all the cases he could find up to that date, and reported one of his own. Since then several other cases have been recorded. The latest paper which has come to hand at the time of writing this is one by Alessandro R. Marina, in the *Archiv. für Psychiatrie und Nervenkrankheiten*, XIX, p. 684. He gives a tabular view of twenty-two cases, of which two are his own. Two other authors have printed papers on the same subject, which had not appeared when he wrote his; namely, Theodor Ziehen (*Archiv. für Psychiatrie und Nervenkrankheiten* XIX, p. 465), and Eugen Kny (*Ibid*, p. 576).

Ziehen concludes that idiopathic myoclonie as well as the symptom of myoclonus are the expression of an increased irritability of the spinal centres. He gives several cases which are not well-marked cases of the paramyoclonus of Friedreich, but vary widely from the combination of symptoms as given by the latter. It seems to me that the first and second cases which I report may be brought into such a relation as Ziehen suggests, but the other of my cases cannot be thus related to each other. I report them only as interesting cases of spasm, without the intention of referring them to any common class.

Miss M. I., age twenty-eight, entered the Adams Nervine Asylum in July, 1887. She had measles when young, and had never been well since. She had violent headaches and nausea at the catamenial period, also backache and inguinal pain, but the head trouble is what she complained of most. She was said to have had an attack of congestion of the lungs the winter before her entrance, but judging by her condition while she was having such an attack, it is probable that the congestion was merely a sense of tightness and constriction due to purely nervous causes. At times she was said to get so confused that she found it hard to collect her thoughts to answer questions.

Dr. Clark, who sent her here, stated that she had anteflexion and a prolapsed ovary, but did not think the head trouble was dependent upon these as cause; the abdominal symptoms seemed to amount to very little.

The patient stated that she had been in bed twelve years, with tired feeling in head, headache, backache, aching in the arms and legs, and pain after eating. There was no tremor of the hands; co-ordination of the hands was good; there was only slight patellar tendon reflex; the plantar reflex was well-marked on both sides. She complained of feeling sore and tender all over; on examination there was found some tenderness to touch and pressure over the abdomen, stomach, between the scapulæ, and at the junction of the lumbar and sacral vertebra. Her feet were cold and slightly œdematous. The pulse was 84. Tongue was large and flabby, rather pale. She showed herself during the examination to be quite hysterical; at very slight causes she jumped with convulsive twitches of the arms and shoulders.

The urine was of a high color, specific gravity 1,036. It was very acid, no albumen, no sugar, sediment normal.

She had many of the convulsive twitchings above referred to, complained much of headache, and showed herself very hysterical. As little notice of her complaints was taken as possible. She was urged to get up, was sent to ride, was kept out doors as much as the weather would permit and her strength would allow. The chief means of treatment used were quieting remedies, as the valerianates, gelseminum, small doses of bromides, salt baths, dry cups to the spine.

She did not improve; the spasmodic action increased in severity, and was more frequently and easily excited. After about three months the legs were affected as well as the arms; there was pain in the toes; she was nervous and restless, and cried out in her sleep.

After about four months an examination showed that the plantar and knee-jerk reflexes were stronger on the right, though neither patellar reflex was very strong. The spasms which occurred, on entrance, at rare and irregular intervals, had become quite frequent, but still recurred at very irregular intervals. They were clonic in character, at a rate of about one hundred and fifty or more in a minute, the attacks coming sometimes near together and again being absent during many hours. The legs were more frequently affected than the arms; the thigh muscles were those most convulsed. The muscles of the face were sometimes affected, especially those about the mouth and orbicular muscles of the eyes, and to a less degree those of the forehead. At times, when standing, the spasms attacked the muscles of the back, obliging her to take several short steps backwards to avoid falling. Noises had no influence in producing the attacks; but the entrance of a stranger, or any emotional excitement, increased their frequency and severity. A gentle tap on the leg would also bring on an attack, more surely of the right leg. She complained of considerable discomfort in her head. She did not walk in a straight line, but rather to one side.

On using the galvanic current to the back, from the fifth cervical to the lumbar vertebræ, the muscles of the head and face seemed to move more than previously. When the sponges were placed on the tenth dorsal and the lumbar vertebræ, the head and face were not affected, and rarely moved. The spasms of the legs were increased during the galvanization. No spasms occurred while the patient was talking.

The spasmodic phenomena were not diminished by treatment, but rather increased in severity without regard to what was done. When the patient left, the attacks were about the same as they were several weeks previously. In many cases of paramyoclonus electricity has been of value in relieving the attacks, but in this case it had no beneficial effect.

Mrs. M. E. E., age thirty-five, entered in 1887, suffering with nervous spasms. Her mother had ner-

vous prostration, her father was consumptive. She had been sick about two years; at first tired, coughing, restless, and unable to keep still. She was put to bed, and improved. There were dyspeptic symptoms, and at times an effort to raise gas, which seemed to depend upon a spasm of the diaphragm. There was also a peculiar jerking of the arms and head. After six months she was put to bed again, was fed, and in three months gained eight or ten pounds. She was better as to the jerking and jumping. She was up and about during the summer, and gained until winter; then she began to have the spasms again. These spasms consisted in a jump, when there was any noise, especially if it was sharp or unexpected. When such a noise was heard, she would rise from a recumbent posture to sitting, with a sudden start, with a clasping of the hands and a twitching of some of the muscles of the face, giving her a look of terror as if frightened. Sometimes the start was not sufficient to raise her body, but she would then seize her hands and clasp them tightly, or she would put out her hand and catch hold of the hand or clothing of any one sitting by the side of her bed; then, in addition to seizing hold of the object, she would pull strongly, and twitch and jerk the object she had taken hold of. Even very slight sounds would cause at least a slight contraction of the muscles, and a start as if she were about to have a stronger spasm. The noises which were most likely to give rise to these phenomena were of a sharp character, on a high note; those lower in the scale had a very much less effect. An unexpected noise would produce a more violent spasm than one which was anticipated. In talking with her, it was necessary to speak in a low tone, or choose those words for the first in a sentence which did not begin with an explosive sound. It mattered not whether the noise was in the room or out-doors, the spasm occurred the same, though less severe when distance made the sound fainter.

She had been married eleven years; nine years ago had miscarried at the fourth month. Menstruation was regular. The summer previous the pupils were much dilated; they were so when she was first seen. They reacted normally. There was no headache; patellar tendon reflex was strong; there were no symptoms indicating any special lesion of brain or cord. She was often very tired from the frequent jumping and jerking.

I was told by her physician that an examination had showed no uterine disorder.

Various means were employed to relieve the spasms, but apparently to no purpose. Different internal remedies, — ether-spray to the back, the actual cautery, dry cups, electricity, — all proved ineffectual. Sometimes the irregular action of the muscles was less than at other times; but there seemed to be no connection between any improvement and any remedy.

Miss A. L. P., age twenty-eight, entered the asylum in January, 1888. She was a very tall and unusually large woman. Notwithstanding her size, there was an appearance of lack of endurance, and less real physical and nervous strength than would correspond with her size. She was a nurse by profession, and had had a rather hard time nursing relatives.

The patient said she had had severe attacks of headache for three years, during which the whole head "felt as if frozen." These attacks occurred once in two or three months. There was also pain from the top of the head down the spine. These paroxysms of pain were described by her doctor as being very severe and quite beyond her endurance and control, and inducing hysterical manifestations. These attacks recurred frequently through a period of many weeks.

Her attending physician found a marked erosion about the os uteri, with a mucous discharge from the os. This condition was corrected, and she was in many ways better, but the pain in the head and spine was still sufficient to incapacitate her from work.

She had a slight degree of astigmatism, which was only partially corrected. The glasses enabled her to see pretty well.

On examination, it was found that there was some tenderness in the cervical, middle and lower dorsal regions of the back; the abdomen was not tender; there was a slight amount of tympanites over the stomach; and she complained of occasional distress from flatulence. The pupils reacted normally; the tongue was pale and flabby; pulse was not very strong, seventy-eight. The first sound of the heart was accompanied by a rough murmur; loudest over the aorta, and this sound was transmitted to the apex; the second sound was somewhat accentuated.

For about a month the patient did very well, having no very severe attack of distress, and the headache being relieved by the application of cold and heat alternately to the back of the neck, and by the use of aconitia internally. She seemed in a fair way of speedily recovering. At the end of a month there was a slight disturbance in the ward, on account of the examination of another patient. After this she was not so comfortable, had more trouble with her head, and showed more evidence of hysterical tendencies. A week later she had a severe attack of pain in the back of her neck, with a spasm of the muscles drawing the head backwards in tonic contraction; this was so strong that the nurse was unable to keep her on the bed, and she rolled off onto the floor. When I saw her the spasm was less violent, though still quite strong; the body and neck were bent back in a state of opisthotonos. The contraction was intermittent, continuing for a minute or two, then relaxing for a short time and recurring again. I bent her head forwards during one of the spasms, bringing it into the ...ad, and for... position, when the spasm ceased. I then forci... his life kept the head from returning to the unnatural position, and there were no more spasms.

After this attack there was severe headache for several days, and a tendency to retraction of the head; but hypodermic doses of atropia, or of atropia and morphia, were sufficient to prevent an attack until about ten days later, when she had another severe one, which was relieved in less than fifteen minutes by the application of the galvanic current to the neck. The application of galvanism to the neck every other day served to relieve the pain, and there was no attack for nearly two months, and only occasional headache. During this time she gained in general health and strength. After this period of comparative freedom she had, for ten days, more pain in the back of the neck and slight spasms, but not severe enough to attract special attention at the time, and they were easily relieved. Then there recurred at short intervals two very severe attacks of spasms. In the second of these she was under the observation of my assistant throughout the whole attack. The attack began with pain in the back of the neck, which increased rapidly in

severity; then the limbs trembled, there was clonic spasm for a few seconds, affecting chiefly the arms, they being rigid in extension and pronation, with the wrists slightly flexed. This was followed by tonic contraction of the muscles of the back and neck, the arms being also rigid and extended. There was opisthotonos; this lasted for several minutes. There was no loss of consciousness. Towards the close of the spasm there was a change in the expression of the face, which it was not easy to describe, a sort of far-away look in the eyes, a vacant expression. She said that her tongue felt as if it was drawn back into the pharynx.

This whole attack had a very strong resemblance to an attack of hystero-epilepsy. The first and second stages were quite well marked. There was only a slight suggestion of the third period, that of hallucinations, in the change of expression towards the close of the attack.

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A few days after the above scene I took an opportunity, when she was quiet and free from pain, to tell her that the attacks were hysterical and to some extent under her control; that there was no organic disease; and that she must try to control herself. I suggested that, when she felt the spasm coming on, she should rise and walk about her room, and thus throw off the influence, and perhaps avoid having an attack. The statement that there was no organic disease seemed to relieve the patient's mind to such an extent that she had no more severe attacks, and only once did she find it necessary to try to walk off the tendency to an attack. She remained under observation a month or more, and has been heard from several times since, and has been fairly well. I have not heard of her having any serious disturbance.

In this very interesting and peculiar case there are several circumstances that attract attention. Was this a case of true hystero-epilepsy? Two stages or periods of that affection were clearly represented in the spasm. The first stage, that of the epileptoid attack, was of short duration; then followed a series of clonic convulsions, resembling those of epilepsy. This was also of short duration, and was succeeded by a period of great movement, in which the opisthotonos was the position assumed. It is doubtful if there was anything to correspond with the third and fourth periods of Richer. Pressure over the ovaries was not tried during the attacks, but afterwards, on the next day, it had no special effect.

In view of the whole history of the patient, I think it is more probable that the convulsions were not hystero-epileptic, but were simply hysterical, and had a strong resemblance to the more serious affection. Whether the patient had ever heard of or seen a case of hystero-epilepsy, I do not know. As she was a nurse, it is possible that she may have, and that unconsciously, or without any design, the attacks may have taken the form they did by a species of involuntary imitation.

The good effect of an explanation of the spasms to the patient could hardly be expected in every case of hysteria; but perhaps would follow in more cases than one at first would expect.

The following case is of interest as belonging to that class of neuroses which are dependent upon uterine disturbances of a more or less functional nature.

Miss M., age twenty. Menstruated first at about the age of fourteen, but the function was not fully established, the flow recurring only once or twice a year for the first four years or so, then at more frequent but irregular intervals. The flow was scanty at first, later it was more natural.

She is a well-nourished young lady, of good flesh, good color, no appearance of anæmia, seemingly strong and robust. She has a good appetite, can walk without excessive fatigue, in fact, does walk a mile or more twice a day. She has no recollection of a fright or any shock which might have acted as an exciting cause of the peculiar spasms on account of which she sought advice. She has attended and taught school continuously during most of her life, and there seemed to be nothing in her occupation to give rise to the spasms.

At about the time her catamenia first appeared, five or six years ago, she began to have starts or twitches. The first of these attacks occurred while she was asleep on a lounge. She awoke with a start, with no consciousness that she had been dreaming, no knowledge that a noise or any external cause had aroused her. It was just after this that the spasms began. There is a sensation of a contraction in the throat, as if she were clutched by some one, rather like the globus hystericus, as she described it. This sensation passes downward to the stomach and bowels, upward to the mouth. The twitching seems to be internal, yet it is sometimes visible in the lower part of the face; the muscles of the upper part of the face are not affected. The attacks occur towards night, especially when she is tired, sometimes in the morning. Sometimes she goes to bed and to sleep, then will jump and spring out of bed; at times the spasms will continue for three or four hours. She often twitches just before dropping to sleep. When the attacks are very bad, they interfere with breathing, the face becomes flushed, she is exhausted by the severity of the spasms, and then needs to go to bed earlier, and can sleep sooner. After falling to sleep she often sleeps well, but there may be twitching without waking, as shown by the action of the muscles. During her visit she sighed frequently, and the respiration was in that respect irregular. For the last two or three months there has been a sense of pressure in the head, and sometimes pain through the head.

These attacks are more frequent and severe at the time when the catamenia ought to appear, if they are absent or delayed. When the periods are more regular the attacks are less, or may be absent. When in company, or interested in her work, or in conversation, the twitching does not occur. Consequently, there was none of it during the visit. There were no objective symptoms.

A uterine examination had been made before I saw her; and I was told that the physician had found an undeveloped uterus, for which electricity had been used, and since then the catamenia had been more regular.

The next case is one of those singular hereditary neuroses, which are occasionally found to prevail in certain families, and are different from similar cases outside these families. These may be designated as "family" neuroses; and, in that they recur so frequently in the one family and are not met outside that family, they differ from the ordinary hereditary neu-

vous prostration, her father was consumptive. She had been sick about two years; at first tired, coughing, restless, and unable to keep still. She was put to bed, and improved. There were dyspeptic symptoms, and at times an effort to raise gas, which seemed to depend upon a spasm of the diaphragm. There was also a peculiar jerking of the arms and head. After six months she was put to bed again, was fed, and in three months gained eight or ten pounds. She was better as to the jerking and jumping. She was up and about during the summer, and gained until winter; then she began to have the spasms again. These spasms consisted in a jump, when there was any noise, especially if it was sharp or unexpected. When such a noise was heard, she would rise from a recumbent posture to sitting, with a sudden start, with a clasping of the hands and a twitching of some of the muscles of the face, giving her a look of terror as if frightened. Sometimes the start was not sufficient to raise her body, but she would then seize her hands and clasp them tightly, or she would put out her hand and catch hold of the hand or clothing of any one sitting by the side of her bed; then, in addition to seizing hold of the object, she would pull strongly, and twitch and jerk the object she had taken hold of. Even very slight sounds would cause at least a slight contraction of the muscles, and a start as if she were about to have a stronger spasm. The noises which were most likely to give rise to these phenomena were of a sharp character, on a high note; those lower in the scale had a very much less effect. An unexpected noise would produce a more violent spasm than one which was anticipated. In talking with her, it was necessary to speak in a low tone, or choose those words for the first in a sentence which did not begin with an explosive sound. It mattered not whether the noise was in the room or out-doors, the spasm occurred the same, though less severe when distance made the sound fainter.

She had been married eleven years; nine years ago had miscarried at the fourth month. Menstruation was regular. The summer previous the pupils were much dilated; they were so when she was first seen. They reacted normally. There was no headache; patellar tendon reflex was strong; there were no symptoms indicating any special lesion of brain or cord. She was often very tired from the frequent jumping and jerking.

I was told by her physician that an examination had showed no uterine disorder.

Various means were employed to relieve the spasms, but apparently to no purpose. Different internal remedies, — ether-spray to the back, the actual cautery, dry cups, electricity, — all proved ineffectual. Sometimes the irregular action of the muscles was less than at other times; but there seemed to be no connection between any improvement and any remedy.

Miss A. L. P., age twenty-eight, entered the asylum in January, 1888. She was a very tall and unusually large woman. Notwithstanding her size, there was an appearance of lack of endurance, and less real physical and nervous strength than would correspond with her size. She was a nurse by profession, and had had a rather hard time nursing relatives.

The patient said she had had severe attacks of headache for three years, during which the whole head "felt as if frozen." These attacks occurred once in two or three months. There was also pain from the top of the head down the spine. These paroxysms of pain were described by her doctor as being very severe and quite beyond her endurance and control, and inducing hysterical manifestations. These attacks recurred frequently through a period of many weeks.

Her attending physician found a marked erosion about the os uteri, with a mucous discharge from the os. This condition was corrected, and she was in many ways better, but the pain in the head and spine was still sufficient to incapacitate her from work.

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On examination, it was found that there was some tenderness in the cervical, middle and lower dorsal regions of the back; the abdomen was not tender; there was a slight amount of tympanites over the stomach; and she complained of occasional distress from flatulence. The pupils reacted normally; the tongue was pale and flabby; pulse was not very strong, seventy-eight. The first sound of the heart was accompanied by a rough murmur; loudest over the aorta, and this sound was transmitted to the apex; the second sound was somewhat accentuated.

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These attacks are more frequent and severe at the time when the catamenia ought to appear, if they are absent or delayed. When the periods are more regular the attacks are less, or may be absent. When in company, or interested in her work, or in conversation, the twitching does not occur. Consequently, there was none of it during the visit. There were no objective symptoms.

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The next case is one of those singular hereditary neuroses, which are occasionally found to prevail in certain families, and are different from similar cases outside these families. These may be designated as "family" neuroses; and, in that they recur so frequently in the one family and are not met outside that family, they differ from the ordinary hereditary neu-

roses. It may well be doubted whether the patient's explanation of the origin of the complaint is the true scientific explanation. I give it as he told it. The symptoms suggest Thomsen's disease, yet differ from that in several particulars. It cannot be classed as tetany, as it does not agree with that combination in all respects.

J. R. was seen early in 1885. He was then about twenty-four years old. The family history is interesting. The patient's maternal great-grandfather, after violent exercise while hunting, felt something give way in his back. His son, the patient's grandfather was born with a similar trouble in his back. The patient's mother had the same trouble, but not until about the age of sixteen. The mother had one sister, who died at twenty-five years, free from the affection; two other sisters were affected. One of these sisters had no children. The other sister had two boys, not affected (one died at twenty-five, the other is living at thirty-five); and one girl, who was affected.

The patient has two brothers and three sisters; the two brothers, younger, are affected; one sister, older, is affected; two younger sisters, one sixteen the other nearly eighteen, are not affected. One sister died at seven, not affected. Some of these relatives are troubled more than others, but otherwise the symptoms are the same in all; none are totally disabled. His sister has had no attack for a year, but she takes less exercise.

The patient was well until he was sixteen years old, except he had had a "slow fever" annually, in winter, for two or three years, which kept him in the house for a week or ten days. His face flushes readily, the vessels dilating slowly, and remaining so for an hour or more.

He was born in October. The November or December after he was sixteen he skated until he was tired. The next morning he had trouble in the calves of both legs; felt stiff all over. This passed off readily. Subsequently, violent exercise brought this on again; and each time it passed off less readily, or as he expressed himself, "It was harder to work it off." This stiffness was not like cramp. There was no pain; it was a numb, stiff feeling in his back, noticed most after being still and then trying to move, and was worse after sitting down then after lying down. Violent excitement, or a fright, would cause the spasm, not at once, but after fifteen minutes.

These attacks are not now any more readily produced, but they are more severe than at first. If the attacks have been frequent, violent exercise will cause one during continuance of the activity. When he has been long exempt, the attack is postponed. Sometimes he is free three months continuously, then the stiffness will "hang around him" for a week at a time.

The attacks are sometimes delayed for thirty hours after the cause has operated. Usually they occur about two or three o'clock in the night, rarely at midnight. They awaken him, and usually pass off by nine o'clock in the morning. He thinks he is awakened because he cannot move his limbs. The attacks do not begin after rising, but if slight on rising, may increase in severity, so that occasionally, after leaving home, he has been obliged to return, it being impossible for him to continue with his daily duties.

In the severest attacks, of which he has had three in two years, he cannot move his limbs nor turn in bed; he cannot move a finger; he can move his lips and talk and smile; cannot open his jaws wide; cannot gape nor cough. These severe attacks last longer than formerly, sometimes forty-eight hours.

In the lighter attacks, after sitting, he has to rise slowly, stand straight, and throw his body backwards, or he falls; then it is difficult to raise his leg, and it drops, or "throws itself down." By resting a moment, he walks better. His hands are also stiff. There is some trouble in articulating.

During the attack there is no disturbance of sensation, no pain, no headache, no vertigo, except in very severe attacks. The pulse is slow; the body seems hot; there is no perspiration; and never unconsciousness. The sight may be blurred for a while. If he is at work, his face flushes.

The patient was a well-built, healthy-looking man. At the visit, his face was red. The amount of color varied during the visit. The pupils were large. When uncovered, they contracted slightly, then dilated. When examined for accommodation, with the light falling on the eyes, they did the same; but when turned from the light, the reaction for accommodation was normal. The conjunctiva was rather congested. The motion of the eyes, tongue, face and hands, was natural at the time of visit. Sensation was normal. He walked naturally. There was no inco-ordination of legs nor hands. Patellar tendon reflex was slight, and equal on the two sides. The ophthalmoscope simply showed that the small vessels were very distended.

THE SOMERVILLE CASES OF ARSENICAL POISONING.[1]

BY T. M. DURELL, M.D.

On the fourth day of August, 1886, William J. Robinson, a strong young man of twenty-two years, was struck on the back of the neck by an empty soap box falling upon him. He went home and told his mother of this injury; she prepared his dinner, which he ate; and almost immediately he complained of pain in his head, and began to vomit. He returned to his work, but vomited several times during the afternoon, and complained of headache. The next day he was much worse; he had severe frontal headache and sighing respiration; his face was flushed, his eyes injected; pulse 90; temperature, 100°. The heart's action was weak. This condition of things was found by Dr. E. L. White on his first visit. The story of the accident was told, but this did not seem to be enough to account for the condition of the patient.

August 6th. The headache was less severe and the vomiting less frequent. There was a slight papular eruption over the surface of the body.

August 7th, 7.30 P. M. Vomiting constantly, excessive thirst, burning pain in the throat and stomach, and severe diarrhœa; the headache had disappeared; the face was red, and the eyes injected. The mind was clear.

August 8th. The above symptoms continued during the day, with more eruption.

August 9th. The face was flushed; the eyes were injected and jaundiced; the respiration was sighing; the temperature was 100° and the pulse 104. There was burning pain in the fauces and stomach, with

[1] Read before the Massachusetts Medico-Legal Society, February 6, 1889.

great thirst; the liver and spleen were enlarged. Up to this time, no vomitus or urine could be obtained, as they were thrown away immediately; but during the visit the patient vomited, and the vomitus was taken by the physician, and sent to Dr. Wood for analysis. Crystals of white arsenic were found. In the afternoon there was some vomiting, and the diarrhœa continued; but the patient was rather more comfortable. Mrs. Robinson was very anxious to know what had been done with the vomitus.

August 10th, 9 A. M. Patient better. Temperature, normal; pulse, 100, rather weak; respiration, 24, sighing, but not as much so as before; less diarrhœa and vomiting. At 8.30 P. M. the pulse was 112, weak. Severe nosebleed during the day, and great pain in the throat.

August 11th. Much worse; liver and spleen more enlarged; pulse 120, and weak. There were many patches of ulceration in the mouth, insides of the lips and throat; throat very red; body jaundiced; eyes bloodshot and jaundiced. There was a papular eczema over the surface of the body and limbs. The abdomen was swollen. The mind was wandering at times. The patient was very restless. At 5 P. M., pulse, 134; and respiration, 36; no second sound of heart; the skin was cold and clammy.[2]

The patient died early in the morning of the 12th, and I at once took charge of the body and had it removed; and at 1 P. M., (nine hours after the death), I made an autopsy, in the presence of Drs. A. F. Holt and J. L. Hildreth, as witnesses, and found the following appearances:

Rigor mortis was fairly well marked. The pupils were moderately dilated. The dependent parts of the body were of a dark bluish color; other parts of the body and limbs were covered with blueish spots, irregular in outline, varying in size from half an inch to several inches in diameter. Scattered over the body were some blackish spots, varying in size from a pin's head to that of a pea (ecchymoses). Careful inspection revealed no external marks or signs of violence. The inside of the mouth and the tongue were covered with deep ulcerations. On making the cut to open the great cavities, the muscles were seen to be of a bright red color, and those of the chest were well developed. There was about six ounces of straw-colored fluid in the abdominal cavity; the peritoneum was everywhere clear and glistening; the intestines were distended with gas.

The liver was enormously enlarged, nearly filling the abdominal cavity, and was of a bright yellow color.

There were about eight ounces of dark, bloody fluid in the left pleural cavity; a little less, of a lighter color, in the right.

Both lungs were adherent at the top and back. In other parts, the pleuræ were clear and glistening.

There was about two ounces of straw-colored fluid in the pericardial sac. The pericardium was clear and glistening on its inner surface. The heart was about the size of the right fist. A small quantity of dark fluid blood flowed from the cut vessels in removing the organ. There was a little fluid blood in the right side of the heart, and a very small well-organized clot. The auriculo-ventricular opening admitted three fingers. The left side of the heart was empty. The auriculo-ventricular opening of this side admitted two fingers. All of the valves of the organ were normal in appearance, its cavities of normal size, and its walls were of normal thickness. The muscular fibre of the organ was of a red color, and slightly soft.

The left lung was generally of a dark red color; the vessels were full of blood; the bronchi were filled with frothy mucus; a quantity of dark bloody fluid could be squeezed from the cut surface. The right lung was generally in the same condition as the left, with the exception that it was of a lighter color in the upper portions. The trachea contained a quantity of frothy mucus. The œosphagus was normal.

The spleen was enlarged to twice its normal size, and was of a bluish color; on section nothing abnormal was found. The left kidney was a little enlarged, of a uniform bluish color; its capsule was adherent, tearing the tissues on its removal. Section showed the blood-vessels to be moderately full of fluid blood; the cortical portion was of a reddish-gray color, normal in thickness; the tubular portion was of a bluish color, and the vessels in it could be seen as red lines. The right kidney was slightly larger than the left, and like it, with the exception that the cortical portion was of a grayish-yellow color, and the vessels could be seen in it as well as in the tubular portion. The ureters and bladder were normal; the latter contained about four ounces of urine.

The large intestines were distended with gas, and contained a yellowish-green material, as well as some small semi-solid portions of fæcal matter. There were a few spots, especially in the lower part, that were red, and the vessels were injected about these. The spots were about the size a five-cent piece.

The small intestines contained a quantity of yellow, gelatinous material; the mucous membrane was red in spots. The mucous membrane of the duodenum was of a red color and the rugæ were almost black.

The stomach was dilated to the capacity of a quart, and contained about half a pint of dirty, greenish liquid. Its external coat was of a grayish color except in the dependent parts, where it was red. The mucous membrane was red in patches, and scattered over a greater part of it were a large number of small ecchymoses. The vessels were injected.

The liver was of a striking yellow color, reddened in spots and greatly enlarged. The cut surface was of the same yellow color, and the acini could not be made out. The vessels were partly filled with fluid blood. The gall-bladder was filled with a reddish watery pile; its duct was free. The pancreas was normal in appearance.

No blood flowed from the cut vessels of the scalp. The skull was normal in thickness and appearance. The dura mater was of normal thickness, translucent and glistening on its inner surface. The pia was everywhere clear and glistening, its vessels were moderately full of fluid blood, particularly on the left side; those of the base were empty. Careful section of the brain and great ganglia showed them to be everywhere normal in appearance.

The organs were carefully sealed and delivered to Prof. E. S. Wood and Dr. Charles Harrington for analysis. Both of the chemists found large amounts of arsenic in the organs delivered.

This case was one of a series of cases of poisoning by the use of arsenic, — a series unequalled, I believe, in the history of crime. There are many cases on record where a woman has poisoned several persons,

[2] For the above history, I am indebted to the kindness of Dr. E. L. White, as I did not see the patient till August 11th.

either from hatred or for some other motive; but for a mother to poison her own children is, I believe, without parallel.

Mrs. Robinson's career in arsenical poisoning began in Chelsea, thirteen years ago. At that time, Joseph Field, who married Mr. Robinson's sister, became attached to Mrs. Robinson and left his family and went to board with her. He had a large amount of money and government bonds, which he kept in a box in his room. Shortly after he went to board with Mrs. Robinson he was taken sick with symptoms of poisoning, and died. After his death no trace of the money or bonds was ever found; but Mrs. Robinson went to Dr. Bean, who attended Field, and asked him how she could get money for a government bond which she had. At that time the doctor thought that Mr. Robinson had poisoned Field from jealousy.

Later, the Robinson family went to live in a house owned and occupied by Oliver Sleeper and his wife. While there Mrs. Sleeper died, and Oliver took his meals with the Robinsons. Sleeper received something over $10,000 in money, and carried it home with him; and directly after this he was taken sick and died. His sickness was due to slow poisoning; and arsenic was found in his remains when exhumed. When the administrator took charge of his effects the money was gone. Mrs. Robinson nursed him during his sickness. Sleeper died August 10, 1881.

July 23, 1882, Moses Robinson (Mrs. Robinson's husband) died, after an illness of six days. The prominent symptoms were vomiting and diarrhœa. Shortly before this, Robinson made application for insurance to the New England Relief Association for $2,000 which was made payable to his wife. Just before his sickness Mrs. Robinson went and asked if his insurance papers were all right. She brought suit to recover the insurance but failed to recover for some technicality. Arsenic was found in his body.

The Freeman family consisted of four persons, Mr. and Mrs. Freeman and two children. Mrs. Freeman was a sister of Mrs. Robinson. Prince Arthur Freeman had his life insured in favor of his wife, and this wife, Annie E. Freeman, was taken sick with symptoms of poisoning, and died February 26, 1885. Mrs. Robinson nursed her during her sickness. Arsenic was found in her body.

The baby, Elizabeth Bell, died April 16, 1885, Mrs. Robinson being her nurse. No arsenic was found in this case, although the baby was nursing at the time of the mother's sickness.

After the death of Mrs. Freeman, Mrs. Robinson persuaded Freeman to come and live with her; and the insurance policy was made payable to her, the idea being that, should anything happen to Freeman, Mrs. Robinson might have money to bring up the boy. Freeman died June 27, 1885, after an illness of six days, the symptoms were those of poisoning, and arsenic was found in his body.

Lizzie A. Robinson, a daughter of Sarah Jane, died at Somerville on February 22, 1886, after an illness of four weeks and five days. This illness commenced with an attack of acute rheumatism; but, during the course of the disease, she developed symptoms of acute Bright's disease. She also had severe vomiting and diarrhœa, and finally died, according to the death certificate, of acute Bright's disease. The physician who attended her made every effort to secure an autopsy, but her mother would not allow it. She was insured for $2,000. Arsenic was found in her body.

Thomas A. Freeman (son of Prince A.), living at Mrs. Robinson's, died July 23, 1886, after a very obscure illness. Arsenic was found in his remains. The motive in this case was to get rid of the boy, so that she might use the whole insurance money of the father.

Next came the case of William J. Robinson, who died August 12, 1886. He was insured for $2,000 in favor of his mother.

There was the same method employed in all these cases; the plan being to call in some physician for a comparatively slight sickness, and then administer the arsenic. In all of the cases physicians of good standing were called, and before they realized what had happened, the patient was dead. The result was, that, in a few years, nine persons died under the care of Mrs. Robinson; and in all of the cases except Field and the baby, arsenic was found in large quantities after death. In all of these cases the physicians who attended the various patients have made statements of the symptoms of their patients, and all of these statements correspond with the history of arsenical poisoning. One of the most remarkable things about these cases is the skill which was used by Mrs. Robinson in administering the poison; and this very skill would lead one to think that some one familiar with the properties and uses of arsenic must have been associated with her.

Mrs. Robinson was tried for the murder of her son, William J. Robinson, but the jury failed to agree on a verdict. Subsequently she was tried and convicted for the murder of her sister and family.

A CASE OF FRACTURE OF THE THIGH, WITH NON-UNION.

BY THOMAS H. MANLEY, M.D.,
Surgeon to Harlem Hospital, New York.

IN the early part of January, a lame man came into the Harlem Hospital, seeking relief to the distraint of an injured limb, and giving the following history:

He said that nearly two years (twenty-two months) before, while pursuing his usual occupation of lumberman, he got caught between two logs, and fractured his left thigh. He was brought to one of our largest hospitals for treatment. On entering, he was examined, and told that the bone was broken near the joint. A Buck's extension, with weights, was applied, and he was kept quiet for two weeks, when more extension was made, and plaster of Paris put on. In this the limb remained eight weeks. After removal, it was found that there was no union. Then he was etherized, and the ends of the bones rubbed together, and again the plaster was adopted as a splint.

At the end of three months this was cut down, but still no union. At this time a council of surgeons was held; and it was decided that there was probably something between the ends of the bone, which should be removed, and that while removing any impediment to union, they would wire. Again he was anæsthetized, an operation performed, and another layer of the powdered lime applied.

He said, that after this he suffered great pain for a long time, and had a profuse and long-continued discharge from where the wound was made. In the mean time, his weight had been reduced from one

hundred and seventy to one hundred and ten pounds. After the wiring of the femoral shaft, he was kept in the hospital thirteen months, most of the time in bed. He was then discharged, and was informed that the bone was united, and that, with use and friction of the limb, it would in time become supple and strong. He remained at home six months, and found no improvement whatever. On the contrary, pain was constant at the seat of the incision; and now, too, he discovered that the scar commenced to ulcerate.

Condition on entering Harlem Hospital. — He came in on crutches, and though more than two years had elapsed since the accident, he found himself, even now, unable to put any weight on the foot of the injured side. His general health seemed fair. On examination of the affected limb, it was seen that the knee-joint was motionless unless considerable force was used, when he would complain of its giving him some pain, more particularly in the region of the injury.

It was evident that the knee was not anchylosed (not as we understand it) from arthritic lesion, but was immovable through being firmly held by the unyielding hamstrings, vasti, and femoral rectus. The leg below was wasted and feeble; and, above, those once heavy, powerful muscles of the thigh, when compared with their fellows, were seen to be greatly shrunken and atrophied, from constant, continued pressure, and non-use. On the front aspect of the thigh, just anterior to the lesser trochanter, there was a long linear cicatrix, but broken in the centre, through which a thin, serous discharge exuded. Though there was some motion in the hip-joint, it was, nevertheless, very limited, and was attended with some pain when made with any degree of freedom,

The question was, What could we do towards improving our man's condition, and relieving him of his infirmity? It seemed to me that we could do very little. He was at the meridian of life, — forty-five years old, — and was altogether a different subject to operate on than a youth with active recuperative processes. He was especially anxious to get the use of his knee; but this we could not promise him, as it was evident that in the reparative processes about the seat of the wound lymph was thrown out in every direction, between and among all those large muscle-sheaths of the upper part of the thigh, extending from the bone to the skin, and, becoming organized, had formed a tough, leathery bond, sealing and soldering together everything promiscuously, — bone, tendon, vessels and muscles, — and preventing forever that free, sliding, easy motion of one muscle-sheath over the other, and hence the normal potency of the joint below.

We could do one thing, however; we could follow the fistulous opening, and remove, perhaps, the cause of it. But why, with good union, he could walk only with crutches, seemed a mystery. We examined the thigh, we thought, very thoroughly on his entrance, and felt assured of the solid continuity of the femur. The measure of relief we offered was very inconsiderable, yet he quickly consented to our efforts in the way of doing everything which might, in any degree, relieve him.

I commenced the operation by making an incision, in the same direction as the original, on the anterior aspect of the thigh, but about half an inch to its outer side, in other words, to the outer border of the sartorius and inner of the tensor-vaginal femoris muscles, directly over and through the rectus femoris, till the periosteum was reached. We found the tissues indurated, and inseparably matted together. The traces of former suppuration and extensive connective-tissue formation were well marked.

In following along the tortuous course of the fistula, we came to a small, angular piece of necrosed bone, which had, no doubt, been reduced in size from the solvent action of the discharge which its presence was the cause of. After removing this small, foreign substance, we cautiously groped further, avoiding the large nerve trunks and vessels which lie convenient to the femur in this situation.

Shortly we reached the bone, when, to our amazement, we found no osseous union whatever; but, owing to the false joint being so firmly embraced by the large muscles which run in the same direction as the shaft, and the large amount of new tissue formation, we were, as well as the surgeons in the hospital which he originally entered, deluded into believing there was true union. I would have readily sworn, that, to the best of my knowledge and belief, there was osseous connection of the shaft.

The wire used in holding the broken ends could be seen, blackened, but deeply lodged, on the under surface of the limb; and considerable dissection was necessary to reach it.

I did not wish to take the chance of deep suppuration, which might entail the loss of his limb or even life, and was contented with approximating the edges of the incision, and draining from below, with horse-hair. The wound healed up in a few weeks, when the pain ceased. Not being able to safely do anything further for him, he was dismissed.

This case, it would seem, is well worthy of recording, especially just now, when, owing to the presumed impunity with which tissues may be indiscriminately explored or opened, with antiseptics, considerable wiring of bone is being done. The case illustrates what has *always* been my experience, namely, that, for some reason not yet well understood, wiring shafts of bones does badly, no matter what care is taken. On the other hand, it is not unattended with danger; for, do what we will, pus will almost invariably form and infiltrate. The only exception is in children; where there is much displacement and shattering, the wire does not seem to cause the irritation it does in adults. It is the ideal treatment, *if practicable*, as the bones can be at once accurately apposed and held together, but the ends of them will either necrose, or the wire cause so much harm and inconvenience as to require removal.

I think, then, that it may be set down, almost as an axiom, that, in the adult, wiring of a bone is never justifiable, except when there is a compound fracture with shattering, or great displacement. Under any other circumstances, though its application seems simple, it is a dangerous and useless experiment.

— Dr. R. Jamin reports (*Abeille Médicale*, May 13, 1889) favorable results from the electrical treatment (eleven applications) in a case of nocturnal incontinence of urine in a young girl of fifteen, who had wet her bed nightly for years, and in whom he and others had obtained no amelioration by prolonged medicinal treatment. He used direct faradization with an olive-tipped bougie applied to the urethra, after the advice of Guyon. — *New York Medical Journal.*

Clinical Department.

A CASE OF LIGATURE OF THE INTERNAL JUGULAR VEIN: RECOVERY.[1]

BY E. H. BRADFORD, M.D.

THE following case of unusual surgical emergency, in operating for section of the sterno-cleido mastoid, deserves record as a warning. The patient was a girl of eight years, with wry-neck, with the usual contraction of the sterno-mastoid muscle. It was decided to divide that muscle by an open incision. The incision was made in the usual way, half an inch above the clavicle, the skin and platysma divided, and both sternal and clavicular attachments of the muscle incised. The head could now be straightened, but before the wound was sewed up, the finger was inserted into it and a small tense fibre belonging to the deeper portion of the muscle, which had escaped incision, was felt. It was thought advisable to divide this, to make a permanent correction more certain.

The fibre was therefore raised between two pairs of forceps, and an incision carefully made between them. A slight amount of venous blood came from the wound, but it was readily controlled by pressure-forceps. An attempt was made to ligate this point, but the ligature came away on irrigating the wound. This was followed by a recurrence of bleeding, which was not profuse, but persistent. Several attempts made at ligature were unsuccessful. No vein could be seen, and it was thought that the bleeding came from an anomalous vein lying in the muscular tissue close to the deep fascia. An attempt was made, by passing a needle, to secure the small mass of muscular tissue which appeared to overlie the bleeding-point. The hæmorrhage was easily controlled by pressure-forceps, but became quite profuse when the forceps were removed. It was then determined to carefully expose the bleeding-point by incision, and it was found necessary to incise the deep cervical fascia. When this was done, the blood was seen to come from a small incision in the internal jugular vein about an inch above the clavicle. The vein was distended about the size of a little finger. A bent probe was passed under the whole vein, with a silk ligature threaded through the eye end. This was carefully pulled through, and the vein was tied above and below the bleeding-point. The hæmorrhage then ceased, and the wound was sewed up. Aseptic precautions had been observed, and the wound healed, by first intention under the usual aseptic dressing. No disturbance followed the ligature of this vein. The patient recovered perfectly, with thorough correction of the deformity.

The case may serve as illustrating two points: (1) That, incising the deeper portions of the attachment of the sterno-cleido mastoid, it should be borne in mind how near they lie to the internal jugular vein, being separated from it (if the neck is straightened) only by the layer of deep fascia. (2) That, in dividing any remaining contracted fibres, the deep tissues should not be raised by forceps, as a portion of the vein may readily be pinched and raised also.

It would also appear from this, that thorough division by a tenotome of all the contracted fibres must be a hazardous procedure; for, if wounding of the artery is a possible accident in an open incision, where reasonable care is used and the parts are more or less under inspection, the danger would be greater if a tenotome were freely and thoroughly used. The imperfect division of the muscular attachments by tenotomy is probably not uncommon, and may explain the failure of attempted correction after tenotomy, and the necessity of prolonged mechanical correction.

[1] Reported at the meeting of the Surgical Section of the Suffolk District Medical Society, May 1, 1889.

Reports of Societies.

SURGICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

G. H. MONKS, M.D., SECRETARY.

MEETING, Wednesday evening, May 1st, DR. E. H. BRADFORD in the chair.

An enormous

MULTILOCULAR CYSTOMA OF THE OVARY,

which had been removed by DR. JOHN HOMANS was shown, and the history of the case related by DR. JOHN HOMANS, 2nd.

The patient, a woman of seventy-four, had suffered from a tumor for about ten or twelve years, and had been tapped half a dozen times. The fluid in the cyst weighed seventy pounds, and the cyst-wall seven pounds. Photographs of the patient before operation were also shown.

DR. JOHN C. MUNRO read a communication on

THE TREATMENT OF MALIGNANT GROWTHS BY ESCHAROTICS.[1]

DR. J. C. WHITE said that his experience with the use of caustics in malignant disease of the skin had been principally confined to nitric acid, with which, however, he was thoroughly satisfied in all cases in which such methods or treatment were appropriate. He applies the acid on a pointed stick of wood, with which he bores well into the diseased tissues. He considers such an escharotic treatment of value in those superficial forms of epithelioma only, which frequently appear on the face and hands. A growth involving the deeper structures he refers to the surgeon for excision.

DR. G. W. GAY said that his first experience with escharotics for removing malignant growths was with arsenical paste, which had been recommended by Dr. Marsden. Dr. Ingalls gave the method a trial, but abandoned it on account of the pain, which was sometimes so excessive as to require full doses of opium. The slough which was formed was apt to be quite large.

Dr. Gay had used liquefied carbolic acid, with some oily substance, with considerable benefit. The pain was not very severe; and, when the slough separated, a clean, deep ulcer was left. He had found this application very satisfactory in the treatment of flat growths, as upon the face. Now, however, he uses caustic potash. The pain is not great, and the action of the caustic can be limited by acids, and the growth while small can be kept well under control. Recurrence is pretty certain, but the treatment can be repeated. Care should be used in selecting proper cases for this treatment. He would not use it in growths larger than the thumb nail. On the whole, perhaps,

[1] Publication deferred.

the very best thing to do is to remove the growth with the knife, and apply the caustic afterwards.

DR. J. C. WARREN had used nitrate of silver in a large number of cases after curetting. The stick should be bored into the growth in various places. He had, in office practice, occasionally used the Pacquelin cautery, after having injected cocaine. He always endeavored to inject the cocaine as near as possible to the source of the nerve supply, rather than into the growth itself. He had found, however, that all the caustic he had used in the more malignant epithelial types of face and hands, had only a palliative effect, and he considered the knife better.

DR. M. H. RICHARDSON did not believe in the use of caustics, except in the most superficial forms of malignant disease. He considered the process painful, clumsy and not thorough. He thought that caustics, which are only temporizing means anyway, are often used at just the time when the knife might do some permanent good.

DR. E. O. OTIS spoke of the deformity which might result from the use of caustic in careless hands, and referred to a case of cancer of the lower lip, which had been cauterized extensively with apparently a good result, but with a very disfiguring scar.

DR. RICHARDSON reported a

CASE OF REMOVAL OF FOREIGN BODIES FROM THE KNEE-JOINT.[2]

DR. WARREN called to mind how much in old days any operation in which the knee-joint was opened was dreaded by the surgeon; but that, now, with strict antiseptic precautions, the danger of bad result is not great. He spoke of about half a dozen cases which had recently been operated upon at the Massachusetts General Hospital, with the greatest success.

To what an extent a patient with a movable body in the joint was disabled he had always been impressed, and he thought that any operation which offered a reasonable degree of success would be justifiable. The surgeon should not forget, however, that occasionally adhesive inflammations in the joint glued down the foreign body to the walls of the joint, thus effecting a cure. Dr. Warren related a case in which this occurred.

DR. RICHARDSON spoke of the importance, in all such operations, of keeping the hands and particularly the nails, strictly clean surgically.

DR. SCUDDER spoke of the antiseptic methods employed in Roosevelt Hospital, in New York, which he had recently visited.

DR. BRADFORD described, in detail, the methods of Esmarch, in Kiel.

DR. BRADFORD then reported a case of

REMOVAL OF LOOSE CARTILAGES FROM THE KNEE-JOINT,

and said: The following case illustrates the origin of loose cartilage in the knee-joint. The patient was a man of fifty years, who had had symptoms of loose cartilage in the knee-joint for several years. One of these bodies could be readily felt to the outside of the patella, and an operation for its removal was undertaken. It was easily found and removed. On exploring the knee-joint with the finger, a second body was found inserted on the synovial membrane, beneath the quadriceps tendon. This was gradually separated by careful pressure with the finger, and removed. A third bit of cartilage, of the size of a ten-cent-piece, was found firmly imbedded in the synovial wall, and it could not be removed without undue violence. It was, therefore, allowed to remain. The wound healed perfectly, aseptic precautions having been taken and the joint irrigated. In a few weeks the patient recovered entirely, with perfect motion at the knee-joint, and with disappearance of his previous symptoms.

Dr. Bradford also reported a

CASE OF LIGATURE OF THE INTERNAL JUGULAR VEIN.[3]

DR. WARREN said that he fully realized the danger of wounding the vein. He recently operated on a case of wry-neck, and as he was about to divide the last fibres of the sterno-mastoid, the child coughed, and the incision laid bare the vein at once.

DR. RICHARDSON spoke highly of the open incision as recommended by Dr. Bradford in a paper read some months ago, and stated that since that time he had used that method only. There was less danger of wounding the vein than in subcutaneous tenotomy. He had frequently noticed in the dissecting room that, if traction is applied to a vein it loses its characteristic appearance, and appears like a band of fibrous tissue. He had abandoned the use of scissors near veins, and merely pressed the knife down upon the tense tissues, (without drawing the knife), in which case the fibrous tissues only are divided, and the vein slips out of the way.

DR. BRADFORD stated that he believed many cases which were operated on by the subcutaneous method were only half cured, the surgeon hesitating to divide the last few fibres of the sterno-mastoid.

DR. F. H. HOOPER showed a

RHINOLITH

which he had recently removed from the nose of a woman of fifty. For twelve years the patient had suffered from pain, and discharge from the left nostril, as well as obstruction. The septum was deflected to the right. The stone weighed five grammes and ten centigrammes. No nucleus could be found.

[2] Publication deferred.

AMERICAN NEUROLOGICAL ASSOCIATION.[1]

SECOND DAY — MORNING SESSION.

THE President, DR. E. C. SEGUIN, in the chair.

DR. GEORGE W. JACOBY, of New York, opened with a paper entitled,

A CONTRIBUTION TO THE STUDY OF ANÆSTHETIC LEPROSY, WITH SPECIAL REFERENCE TO PARTIAL SENSORY DISORDERS.

The points to which particular attention should be paid in all cases were, the electrical excitability of the muscles, the condition of the reflexes, the presence or absence of fibrillary twitchings, and the condition of sensation. Upon these data depended the diagnosis between anæsthetic leprosy and syringomyelia, as well as that of the central or peripheral localization of the leprous process. The conclusions arrived at by the author from the analysis of his own and other cases were that the differential diagnosis between the two

[1] Concluded from page 190 of the Journal

[2] See page 204 of the Journal.

diseases could not always be made; that partial sensory disorders are not characteristic of syringomyelia, but may occur in anæsthetic leprosy as well as in purely peripheral affections; and finally, that a differential diagnostic point between central and peripheral loss of temperature sense may lie in its complete loss in the one case and its partial loss in the other.

DR. STARR said that the same question as to the differential diagnosis between syringomyelia and anæsthetic leprosy had only recently occurred to him. Three weeks ago he had seen a case with Dr. Prince A. Morrow, of New York, in which there had been a gradual onset of an atrophic and anæsthetic affection of the right arm. He came from the Sandwich Islands, and had been exposed to leprosy. There was anæsthesia to temperature and pain, but not wholly to touch along the hand and part of arm. There were three small reddish brown spots on the arm which Dr. Morrow considered leprous in character. The idea of syringomyelia at once occurred to him, but the history of exposure in a leprous country sufficed to make anæsthetic leprosy at least the more probable nature of the disease; but without such history it would have been almost impossible to make the diagnosis. As to the matter of partial loss of sensation, in the cases of multiple neuritis and *beriberi* he had seen, the sensory loss was complete, with the exception however of muscular sense.

The PRESIDENT remarked that he had now under observation a case of leprosy, but had as yet made no careful examination of the temperature sense. His case illustrated the case of diagnosis at an early period, when confusion with syringomyelia could not occur. The patient had a wine-colored eruption on the entire left leg and part of the thigh, the foot being free, and there were three or four similar spots on other parts of the body. There was distinct analgesia and some anæsthesia in these areas, but there was no paralysis or atrophy. The patient had come from the Sandwich Islands. The well-defined limitation of anæsthetic areas showed that it could not be neuritis. Of late the anterior leg muscles had become paretic, but there was no reaction of degeneration. The left hand was beginning also to manifest similar symptoms. There were no ulcers.

DR. C. K. MILLS had seen two cases of leprosy. He thought the author's point with regard to partial sensory disorder very interesting, but he did not see why there should not be partial disturbance also in neuritis, and in fact in traumatic neuritis it was quite frequent. The nature of the sensory disturbance depended upon the extent of the injury to the nerve. In ordinary multiple neuritis it might be true, as Dr. Starr insisted, that there was complete loss of sensation, through destruction of all the sensory fibres. He did not see, however, why the sensation to cold should not be injured as much as any. It should be borne in mind that in all infectious diseases attacking the nervous system, there was a tendency to seize upon the central as well as the peripheral portions at the same time.

DR. GRAY agreed with the last speaker as to partial sensory disorders met with at times in peripheral neuritis. He had observed it also in multiple neuritis, where for instance there was impairment of touch and temperature sense, yet the pain was excruciating. He did not see that it was easy to diagnosticate syringomyelia, and Wichmann and Starr had given no rules for diagnosis in their pamphlets. He believed that no one had made a diagnosis of syringomyelia in life.

DR. STARR stated that Schulze had made the diagnosis in three cases, which had been substantiated by autopsy. The points for diagnosis were the general conclusions drawn from a study of collected cases. Anna Baumler had brought together 116 cases, to which thirty or more had since been added.

DR. GRAY thought that these diagnostic points would apply to many other spinal lesions.

DR. BIRDSALL had had similar ideas to those of Dr. Gray as regarded the diagnostic indications in syringomyelia until he had read Roth's collection of cases — in a certain number of such cases there were clinical pictures differing altogether from other spinal lesions and from peripheral neuritis. Disturbance of the temperature sense was the particular characteristic. Still the testing of this sense had been constantly neglected in studying other spinal cases, and it was possible that it might often be disturbed in other spinal disorders. It was hard to see how any other lesion could produce precisely the same symptoms as those of syringomyelia. It was a question whether tracts for temperature and pain could be localized in the cord. Peripheral nerve lesions might cause injury to some sense fibres and not to others, although generally all are injured, particularly where the inflammation is truncal in character. There might be partial sensory disturbance in dermal forms.

DR. GRAY said it was easy to localize disease in the anterior cornua, in the lateral and posterial columns of the cord, but the diagnosis of central lesions was very difficult. The fact that out of 150 cases of syringomyelia only three had been diagnosticated during life proved the truth of his assertion. The diagnostic suggestions given were therefore empirical. The presence or absence of temperature sense had not been sufficiently tested as yet. How would one distinguish a chronic central myelitis?

DR. BIRDSALL stated that central myelitis began acutely, and thus differed from the slow advance of syringomyelia.

DR. MILLS thought the question of partial sensory disorder most interesting. But he thought that there would be more apt to be partial disturbance in a truncal neuritis than in a dermal.

DR. PETERSON asked the President if the tendon reflexes were exaggerated in his case of leprosy, and was answered in the affirmative. He had asked this because he had recently read an interesting study of the reflexes in anæsthetic leprosy made by Dr. Suzuki of Tokio, and published in the *Sei-a-Kwai Medical Journal*, in which there was an analysis of seventeen cases; one had normal reflexes, while all the others had increased tendon jerks, and in some of the cases there was even ankle clonus. The conclusions arrived at by the author were similar to those of Dr. Jacoby.

The PRESIDENT called attention to the fact that so many cases of leprosy were now being continually imported into the United States, it seemed as if the country were threatened with its domiciliation. It was a question whether it was not the duty of physicians having such cases to report them to the authorities.

DR. SINCLAIR mentioned the recent presence of two cases in Philadelphia. The physician in charge had been fined by the Board of Health for not reporting them.

DR. PRINCE wondered at the manner in which lep-

rous patients were allowed to go about, and thought also that the attention of the authorities ought to be called to the disease, and reports to the Boards of Health ought to be required.

DR. GRAY knew that in the East where the disease is prevalent, isolation is practised. He wished to know what the actual danger of contagion was.

DR. BRILL said that the attention of the New York Board of Health had already been called to the matter.

DR. JACOBY, in closing the discussion said that Schulze was altogether too positive in his assertions. This author went so far as to contend that cases of leprosy where cavities had been found in the cord were not leprosy at all, but syringomyelia. As for himself he thought a central lesion probably often exists in this disease, although it is well known that the essential pathology lies in a truncal neuritis. A simple dermal neuritis could not be assumed in leprosy. In his case for instance the indurated and swollen ulnar nerve could be distinctly felt. He did not agree with Dr. Gray that the diagnosis of syringomyelia could not be made. The only danger lay in mistaking it for leprosy. He had only last evening come across a work of Suzuki, mentioned by Dr. Peterson, but had noticed the identity of the conclusions of that author with his own, although they were reached from different points of view.

DR. F. X. DERCUM, of Philadelphia, then presented two contributions entitled respectively

A DESCRIPTION OF TWO CHINESE BRAINS,
and
A NOTE ON THE PLI DE PASSAGE INFERIEURE INTERNE IN THE HUMAN BRAIN.

He exhibited the brains described. Dr. Mills had made morphological analysis of one in 1886, and descriptions of three Chinese brains had been added to literature by Moritz Benedikt. The six brains thus far analyzed exhibited unusual complexity due to excessive sinuosity of the gyri, and a tendency to excessive transverse fissuration. The frontal lobes were especially large and complex. There was unusual confluence of fissures indicative of a low degree of development such as is often seen in the negro's and sometimes in the white man's brain. There was unusual length of the parallel and Sylvian fissures, and eversion of the orbital and temporal lobes.

DR. MILLS said that it was very important to keep adding to our morphological descriptions of such brains, until accurate deductions could be drawn from a very large number.

DR. SPITZKA stated that the dictum that a tendency to confluence of fissures indicated a low type of development was not accepted by most anthropologists. The more brachycephalic the skull the greater was the development of transverse secondary folds. The elephant, which stands among the highest of mammals, had a broad skull and a tendency to confluence of fissures. The Chinese were not low in development. The internal pli de passage in the negro and idiot was significant only when the general cortical development was poor. The real cause of the location of the chief sulci lay in the inherent architecture of the brain, and was due to the arrangement of groups of cells and fibres, but the secondary and tertiary sulci might be influenced by other factors such as the course of vessels. While we might never be able to localize the higher functions of the mind, there was something in the physiognomy of the Chinese brain which struck him as differing altogether from that of the Caucasian. But it was not the same difference as was noticeable between the negro and Caucasian brains. The peculiar moral attitude of the Chinese pointed to some relation between the structure of their brains and the character of their minds. Still he had observed a great difference between these two Chinese brains, and there was no feature in them which might not be reproduced in the Caucasian brain.

DR. DERCUM had not wished to imply that transverse fissuration was indicative of a low type, but thought the unusual confluence showed a lack of cortical development. He did not consider them brains of a low type, but many features, such as were found in the brains of the negro and ape, were found here also. The excessive sinuosity, however, indicated a higher cortical development. For instance, in one brain there were five well-developed frontal gyri.

DR. SPITZKA had the same idea as Dr. Dercum. As compared with the Caucasian brain, the Chinese was in some respects inferior, and in others exhibited a superabundance of gyri. He spoke of the resemblance between negro and ape brains. The differences between the brains of the ourang outang and chimpanzee were greater than those between the brains of the chimpanzee and a human being. There was no uniform appearance of the ape's brains. Vogt and another had classified the human brain into three types, the negro, Mongolian and Caucasian, corresponding somewhat to the three lower types of the gorilla, chimpanzee and ourang outang.

DR. M. ALLEN STARR, of New York read a paper entitled

THE PATHOLOGY OF SENSORY APHASIA, WITH AN ANALYSIS OF FIFTY CASES IN WHICH BROCA'S CENTRE WAS NOT DISEASED.

In all of these cases collected by the author some form of sensory aphasia was present, and in all the lesion lay in the posterior lower third of the brain. In seven of the cases there was pure word deafness, and in these the lesion was limited to the posterior portion of the first and second temporal convolutions. In eleven cases there was pure word-blindness, and in these the lesions were found distributed either in the angular gyrus, the occipital lobe, the temporal convolutions or the inferior parietal region.

In seven cases word-deafness and word-blindness were co-existent, although the use of language was not lost; and in these the temporal convolutions were involved, extending in some to the inferior parietal, angular and occipital convolutions. The practical application of the localization of aphasia lesions is obvious, for the regions concerned in speech are especially accessible to the surgeon.

Another fact of interest is that it seems to be proven that there is no ideational centre. An idea may be impaired but cannot be wholly destroyed by a single cortical lesion. Thought being regarded as the play of consciousness, a long association of fibres between sensory centres cannot be localized.

DR. LLOYD had now a case of simple homonymous hemianopsia without psychical or word-blindness, and wished to know whether there was any diagnostic importance in this condition as to localization. Was there a preponderance of one hemisphere over another as regarded sensory memories of language?

DR. STARR said that the matter of psychical blindness had recently been discussed by Wornicke and another. A lesion affecting bilaterally both occipital lobes or the association tract produces psychical blindness, but a lesion along either tract itself does not cause this condition. Nine cases of psychical blindness from lesions of one hemisphere alone had been reported.

The election of officers for the ensuing year being then in order, the following were chosen:

President, Dr. E. C. Spitzka, of New York; *Vice-Presidents*, Dr. Wharton Sinkler, of Philadelphia, and Dr. H. M. Lyman, of Chicago; *Secretary and Treasurer*, Dr. G. M. Hammond, of New York; *Councillors*, Dr. Henry Hun, of Albany; Dr. C. L. Dana, of New York.

AFTERNOON SESSION.

DR. J. H. LLOYD, of Philadelphia, read a paper entitled

A LATER HISTORY OF A CASE OF FOCAL EPILEPSY FOR WHICH TREPHINING AND EXCISION OF THE MOTOR CENTRES WERE PERFORMED.

Full details of the case had been recorded at the last annual meeting of the Association. At that time but three months had elapsed since the operation, and Dr. Ferrier, of London, had stated in a discussion that the time was too short for a decisive result as to the usefulness of the operation. Now that more than a year had passed, further details could be given. Before the operation the patient had had many seizures daily. There was no fit for four months after the operation. Since that time however, there had been some ten seizures in nine months.

DR. SPITZKA said there was a minority, but a powerfull minority, of clinicians and physiologists who hesitate to accept the dictum that spasms were always of cortical origin when clonic in character and local in manifestation. There were well authenticated cases of spasms such as are generally described as cortical, which undoubtedly had their origin in the pons or medulla. He, therefore, thought it premature to advise surgical procedure when there was still doubt as to the position of the convulsive centre. He was of opinion that the seat of irritation in the great majority of cases of epilepsy was in lower centres, such as Nothnagel's convulsive centre.

DR. MILLS mentioned the case of a man subject to unilateral convulsions beginning in the hand. There was a scar upon the head, and trephining was done at this spot in order to relieve severe pain, probably due to trigeminal irritation in the scalp or dura. This operation relieved the pain, but caused the Jacksonian epilepsy upon the other side. The operation was repeated in the same spot, the membranes and cortex being removed to some extent, and with great success. It was an apparent illustration of the fact that convulsions may occasionally be the result of operations themselves.

DR. DERCUM had seen the same case and stated that the dura was not opened in the first operation. At the second trephination the membranes were found united. There was a pachymeningitis. The patient had surgical epilepsy. Six months elapsed between the operations.

DR. LLOYD said it was a question whether one could have localized epilepsy from irritation of lower centres, as Dr. Spitzka had intimated. He had always held the idea that such spasms were of cortical origin. In the case he had just described the absence of fits for four months led him to believe that he had removed the parts concerned in their manifestation. He had been hopeful of the efficacy of this method in the relief of such a disorder, and was not yet willing to give up the idea that something may be accomplished in this way. He thought it would be justifiable to operate again in this same case.

DR. SPITZKA asked if the cortex removed had been examined microscopically, and what was the pathological condition found.

DR. LLOYD answered that the microscopist had reported atrophy of the cortical cells.

DR. SPITZKA remarked that atrophied cells could scarcely be very potent in the production of epilepsy.

DR. LANDON C. GRAY, of New York, then presented a paper upon

THE DIAGNOSTIC SIGNS OF MELANCHOLIA.

in which he called particular attention to the difficulty of diagnosis of simple melancholia at times. It was usually when in mild degree confused with neurasthenia. He had recently made a study of eighteen cases of this form, and pointed out what he considered the three cardinal symptoms; namely, depression, insomnia and post-cervical ache. The last named he thought especially characteristic. This pain was sometimes neuralgic in character, at others vague and continuous. Simple melancholia, such as this, should not be confounded with neurasthenia, or melancholy states dependent upon hepatic or nephritic disease, or with nontypical forms of insanity.

DR. H. S. UPSON, of Cleveland, then read a paper in which he considered the relation between

MULTIPLE NEURITIS AND INFECTIOUS CEREBRO-SPINAL MENINGITIS.

Dr. Miils had first suggested the possibility of connection between the two. His own case was briefly as follows: A woman, age twenty-seven, had intense pain and tenderness in the extremities, with stupor and slight opisthotonos, no electrical examination could be made because of the extreme hyperæsthesia. She had had a multiple neuritis a year before but recovered. The autopsy revealed congestion of the pia of brain and cord with marked serous effusion, and a microscopic examination of the ulnar nerve revealed interstitial inflammation there. In the opinion of the author, the nerve trunk inflammation was not parenchymatous, but rather of the membranes, and was analogous to the process in the brain and cord; the nerve fibres were secondarily involved. He had not looked for bacteria.

Dr. MILLS naturally felt interested in the case. He had had an autopsy on one of his own cases. Portions of nerves and sections of the brain and cord had been examined by Dr. Gray of Washington, and this examination proved conclusively the association of neuritis with the cerebro-spinal meningitis.

DR. SPITZKA referred to the vacuoles in the author's sections, and said retarded lymph outflow might be important in causing the death of tissue and the formation of gas bubbles which these vacuoles must be considered to represent. He had noticed also two bodies in the section, larger than ordinary leucocytes, very delicately stained, which the author should have carefully delineated.

Dr. C. K. Mills, of Philadelphia, then gave an abstract of a paper by Dr. J. T. Eskridge, of Denver, on a

CASE OF ABSCESS OF THE BRAIN; OPERATION; DEATH ON THE NINTH DAY.

The patient had had typhoid fever. Two months later there was purulent inflammation of the middle ear, and not long after, symptoms of brain irritation followed, such as headache, delirium, persecutory delusions, together with paralysis of the right hand and right angle of the mouth. The skull was trephined over the face and hand centres, and a purulent inflammation was found under the dura. The wound was then dressed, and the patient died nine days later. A widespread suppurative meningitis was found at the autopsy. Dr. Mills thought the case of great practical value. He thought trephining should have been performed in two places, at the centre which had been properly localized and also over the mastoid region where the inflammatory process had originated.

Dr. B. Sachs, of New York, read a paper on the

PERONEAL FORM OF PROGRESSIVE MUSCULAR ATROPHY.

The author reiterated his statement of last year that this form was closely related to Duchenne's type. He gave very full details of the cases of two brothers that had recently come under his observation through the kindness of Dr. Gibney. The boys were thirteen and ten years of age. There was a gradual development of double club-foot in both at the age of five years, followed by an atrophy proceding upward, beginning in the leg and toe muscles and spreading to those of the thigh, in one case also involving muscles of the upper extremities. The knee jerks were present. In one there was general anæsthesia, in the other paræsthesia. There was full degenerative reaction in some of the muscles of one boy, partial in the other. The progressive wasting rendered treatment of this form of club-foot less satisfactory than that of congenital cases. He would suspect this peroneal form in all cases where acquired club-foot was associated with progressive wasting of the leg muscles, and particularly if heredity or family occurrence of the disease could also be established.

Dr. Sinkler could recall several similar cases, one in particular of two brothers. But doubtless more would be seen if careful attention were paid to the matter.

Dr. Birdsall did not think the presence of knee jerk so important a diagnostic point as the author seemed to regard it. He had seen a few cases of old poliomyelitis where the paralysis and atrophy were below the knee, and yet the knee jerks were quite active on both sides. It could not therefore be an essential point in diagnosis. Dr. Bullard had also observed the presence of the knee jerk in old cases of poliomyelitis.

Dr. Prince asked if the author had said that the absence of pseudohypertrophy was a diagnostic point between this form and primary myopathies, and was answered in the affirmative. He did not consider this true.

Dr. Spitzka asked if the symmetry and the coincidence of time and intensity as shown in the photographs were always the case, and was answered in the affirmative.

Dr. Sinkler corroborated two of the speakers as to the presence of the knee jerk in cases of old poliomyelitis, and cited an instance from his own experience.

Dr. Gray objected to the division of progressive muscular atrophy into groups. Why should there be an arm type, a face type, a leg type? Such division might be carried out indefinitely. A more useful classification would be upon the pathology of the disease, a division into central, muscular and peripheral nerve lesions.

Dr. Sachs said he did not lay great stress upon the presence or absence of the knee jerk. Yet in extreme atrophy of the vasti from poliomyelitis the knee jerk was always absent; and if it were present he should consider it a case of progressive muscular atrophy. He had himself tried to discard subdivisions as much as possible, but the present classification was a clinical necessity. A better might be made when the pathology is more accurately determined. At present there were spinal and non-spinal cases, but there was no certainty as regarded peripheral nerve cases.

Dr. Morton Prince, of Boston, then exhibited some microscopic specimens from the muscles of a case of

PSEUDO-HYPERTROPHY.

The patient was now twenty-eight years of age. The specimens showed a large quantity of connective tissue, hypertrophy of a few fibres, and great atrophy of many of the fibres. There was also great loss of striation, but no fatty or granular degenerations and no vacuolization.

The following papers were read by title:

A SERIES OF CASES OF CEREBRAL HÆMORRHAGE OF UNUSUAL INTEREST,

by Dr. J. H. Lloyd, of Philadelphia.

THE HISTOLOGICAL EXAMINATION OF NERVES REMOVED FOR TRIGEMINAL NEURALGIA,

by Dr. J. J. Putnam, of Boston.

THE PATHOLOGICAL ANATOMY OF CHOREA,

by Dr. C. L. Dana, of New York.

PARANOIA IN TWO SISTERS,

by Dr. Frederick Peterson, of New York.

The following new active members were elected: Dr. Hobart A. Hare, of Philadelphia; Dr. J. P. C. Griffith, of Philadelphia.

The meeting then adjourned.

In the evening a banquet was given by the Association at the place of meeting, the West End Hotel, at which some thirty members were present.

FIFTH DISTRICT BRANCH OF THE NEW YORK STATE MEDICAL ASSOCIATION.

Fifth Annual Meeting, held at Brooklyn, N. Y., May 28, 1889, the President, Wm. T. Lusk, M.D., in the chair.

MORNING SESSION.

ADDRESS OF THE PRESIDENT.

In opening, Dr. Lusk congratulated the Branch Association upon its prosperity, the rapid growth in membership, the zeal exhibited for the principles for

which the organization stands, and the scientific merit of the work performed at these annual gatherings, which he said were all prophetic of a long and useful life.

He then proceeded to narrate two cases which he had hitherto refrained from publishing, in order to present them first on this occasion.

I. LABOR AT FULL TERM: UNDILATABLE CONDITION OF THE CERVIX DUE TO CICATRICIAL TISSUE, SPONTANEOUS RUPTURE OF THE UTERUS.

The patient aged thirty-three years, was brought late at night to the Emergency Hospital, exhibiting signs of the most severe suffering. The temperature was 99½°, the pulse 140; and the woman was semi-maniacal. This was her second pregnancy, as far as could be learned. Her first confinement had been a prolonged one, and had been terminated by instruments. The present labor had then lasted about thirty hours. Dr. Lusk was hastily summoned, and on his arrival he found that the membranes had long been ruptured, the uterus was firmly retracted upon the child, whose body was apparently situated in an oblique position, with the head directed to the left, and rupture of the uterus seemed imminent. A digital examination showed that no dilatation of the cervix had taken place, and that this fact was due to firm cicatricial tissue situated at the internal os and extending somewhat over the lower uterine segments. With the impending danger of rupture, he decided upon the Cæsarean section; but the cries and importunities of the patient at sight of the preparations for the operation led to hesitation, and this hesitation proved fatal.

While the question of operation was under debate she called for a chamber, saying that she wished to pass urine; and when placed upon the vessel began, in spite of every attempt to control her, to make violent straining efforts. Suddenly she fell back unconscious. The pulse was almost imperceptible, and the entire surface of the body became intensely pallid, and covered with clammy perspiration. It was evident that uterine rupture had taken place, and the patient, who did not rally, died in almost two hours. The autopsy was made by Dr. T. Mitchell Prudden, and he reported that on making the abdominal incision the body of the child was found corresponding to the long axis of the mother's abdomen, with the back directed to the front, and the head bent sharply to the front. There was a considerable quantity of soft red blood-clot in the abdominal cavity, and the rent in the uterus extended obliquely across the uterus from the upper cervical portion to the right side of the fundus. The uterine walls were about one centimetre thick, and the ragged edges of the rent were deeply stained and infiltrated with blood. The placenta was firmly attached to the left upper segment of the uterus, which contained about sixty cubic centimetres of dark soft blood-clots. The os externum was lacerated from the previous labor, the upper portion of the cervical canal was narrowed by dense cicatricial tissue, so that its diameter was about two centimetres; and the anatomical diagnosis therefore was: Rupture of the Uterus, with old firm cicatricial contraction of the Cervix Uteri.

The case was rare, Dr. Lusk said, inasmuch as the cicatricial contractions were situated at the internal os and the lower uterine segment. Dilatation by incision or other antiseptic means was impossible. When cicatrices were limited to the lower part of the canal, as was usually the case, the obstacle to the birth of the child was usually removed by the employment of the knife to sever the limiting bands. Again, the case furnished a new illustration of the fact that in spontaneous rupture the laceration is not of necessity confined to the thinned lower uterine segment, as has been maintained by some of the extreme partisans of Bandl's theory.

He thought that the early performance of the Cæsarean section or the Porro operation would probably have saved the patient's life; although at the late period of her admission to the hospital either procedure would have partaken of the nature of a forlorn hope. Spontaneous rupture during labor, he went on to say, is not so rare an event that those engaged in busy practice can afford to be ignorant of the means of combating the tendency to a fatal result by all the resources of modern science. To Bandl belongs the merit of showing that nearly all ruptures begin in the lower uterine segment. In normal labors during each pain the fundus and body of the uterus thicken, while the lower segment is stretched and thinned by the ovum or the presenting part of the fœtus. So long as no obstacle is met with which hinders the descent of the ovum or the fœtus, this process ends in the conversion of the uterus and vagina into a continuous canal. Ordinarily, in advanced labor, the lower circumference of the body is distinguished from the stretched lower segment by a thickened ridge termed the contraction ring, or ring of Bandl, though in easy labors this ring is often but slightly indicated.

When, however, the descent of the fœtus is hindered by any cause the resistance of the ligaments which hold the uterus in position is overcome by the continued retraction of the fundus and body, and, as a consequence, the contraction ring is withdrawn upwards, the lower segment is thinned, and, in extreme cases, nearly the entire uterine contents may occupy the distended passive inferior segment. Under these circumstances the contraction ring is strongly marked, and may be felt through the abdominal walls above the pelvis, or even in the neighborhood of the umbilicus. This movement upward of the contraction ring is limited somewhat by the pelvic and round ligaments and by the direction downward of the abdominal pressure; and as these restraining agents operate more efficiently in first than in subsequent labors, it is not difficult to comprehend the relative frequency of rupture in women who have borne many children. As a result of the continued retraction of the body of the uterus the lower segment may become so distended as to form little more than a membranous covering to the fœtus, and the conditions favoring rupture are established. It has been maintained upon theoretical grounds that spontaneous rupture is arrested by the contraction ring, and this is certainly the rule where there has been no art intervention; but the case in question shows that the rule has its exceptions.

Undoubtedly the popularization of Bandl's teachings has contributed greatly toward the adoption of an intelligent prophylaxis in difficult labors. The situation of the contracted ring, which, when well defined, can usually be felt through the abdominal walls, furnishes in many cases an index of the degree of the threatened danger. The risks are further increased in cross births, in hydrocephalus of the child and in lateral and anterior displacement of the uterus, ow-

ing to the augmented pressure exerted under such conditions upon a limited portion of the already over-distended tissues. If rupture occurs under these circumstances the accoucheur cannot wash his hands of responsibility. He ought to know that the faulty uterine positions should have been early connected by judicious bandaging, the hydrocephalic head reduced by puncture, and that in all forms of obstructed labor there comes a time when patient waiting ceases to be a virtue and active intervention is demanded. The new learning teaches us that when the uterine efforts have proved unavailing to fix the presenting part, and the increasing distance of the contraction ring from the pelvic brim points nearly to a dangerous thinning of the uterine muscle, the physician must decide promptly upon the indicated measure of relief. These, in head presentations are version, craniotomy and the Cæsarean section. In neglected shoulder presentations only, cautious attempts at version are justifiable, and the operator should never forget to support the head with one hand through the abdominal walls in such a way as to relieve the strain upon the over-distended tissues. In case of failure the persistent use of rude force is criminal.

Dr. Lusk stated that his object in dwelling upon these points was the fact that he did not believe that rupture of the uterus is by any means so rare as statistics would seem to indicate. While, however, insisting upon a rule of personal accountability as regards the accoucheur, he said it was necessary to recognize that to Bandl's scheme there are exceptions. Now and then, cases are reported in which primary rupture has occurred in the fundus and in the body, and where the lower segment has given way without antecedent signs or warnings. Having mentioned such a case in his own experience, he said that rupture may be complete or incomplete. In the latter the tear is confined to the muscular structures, and the peritoneum remains intact. In most instances the hæmatoma resulting from the bleeding vessels dissects up the peritoneum for a certain distance beyond the tear. In the complete form the peritoneum likewise gives way, but to a less extent.

When the shock, the sudden stoppage of the uterine pains, the recession of the presenting part, the bloody discharge, the lateral tilting of the fundus, or its apparent disappearance in the case of the passage of the entire child into the abdominal cavity has led to a diagnosis of rupture, the first indication for treatment is the speedy removal of the child. In selecting the manœuvre for accomplishing this, the important consideration to be kept in view is that it shall to the least possible extent increase the dimensions of the already existing rent. In general terms he said it might be stated that with an undilated cervix, or in cases of extreme pelvic contraction, or after the passage of the head and arms through the rupture, and in all cases where the child passes entirely into the abdominal cavity, laparatomy is the more conservative measure. There is not only less shock, but the opening of the abdomen enables the operator to remove effused blood and amniotic fluid from the peritoneal cavity. Still, the not uncommon impression that the ruptured uterus furnishes a promising field for abdominal surgery does not take into account, that in many of the cases where laparatomy is clearly indicated the patient is practically moribund.

The employment of the suture to close the uterine wound in view of recent Cæsarean processes seemed reasonable, but it was to be borne in mind that with ragged borders infiltrated with blood, with the peritoneum stripped off, and sometimes with air infiltrated into the sub-peritoneal connective tissue, the conditions for union are in no way comparable to those which exist in Cæsarean section. The Porro operation, he thought, promised better results, though the deep situation of the tear would make it difficult to secure a healthy pedicle. There should, however, be no hesitation about the suturing of the peritoneal surfaces, as the rupture is thus converted into an incomplete one, with its more favorable prognosis.

When the child could be removed by the natural passages without increasing the extent of the rupture, and when the latter was confined to the lower segment, he considered laparatomy of doubtful value. In many such cases recovery as far as life was concerned had been secured by the employment of antiseptic irrigation and filling the gap with antiseptic gauze. At the same time drainage should be secured by means of iodoform wicking or the bent rubber tube, both drainage and packing being most effective when the tear is situated in the posterior wall. This plan of treatment is, of course, only useful where no infection of the abdominal cavity has taken place at the time of the rupture, and the best results are obtained, therefore, in cases of complete rupture. At the same time that drainage is used, compression of the fundus and body should be employed by means of the hands through the abdominal walls, and in case of hæmorrhage efficient aid can be furnished by pressure made upon the aorta. It may be necessary to maintain manual compression for hours. Finally, a carefully-graduated compress should be placed around the uterus to maintain firm contractions. For this purpose he prefers the disc-shaped hydrostatic bag partially filled with water; and in this condition and in all forms of post-partum hæmorrhage he has found it most effective. It adapts itself nicely to the contour of the contracted uterus, and it has sometimes seemed to him to work as intelligently and surely as the skilled hands of the accoucheur.

The second case was one of Cæsarean section resulting fatally. The patient had a contracted pelvis and kyphosis, with an abscess from which there was a large accumulation of pus under the psoas muscle, and Dr. Lusk expressed the opinion that if in this instance he had performed the Porro operation, and thus by the removal of the uterus relieved the pressure upon the intestines and other structures, the patient's life would probably have been saved.

Dr. Thomas H. Manley, of New York, read a paper on

THE GENESIS OF TUMORS.

Dr. F. E. Martindale, of Port Richmond, Staten Island, read a paper on

CALCIFICATION OF CARDIAC LEFT VENTRICULAR WALL FOLLOWING SUBACUTE VERRUCOSE ENDOCARDITIS.

This case, he said, was first reported in the "Transactions of the Medical Society of the State of New York," for the year 1887. The patient, a man aged seventy-three years, was suddenly attacked, April 13, 1886, after half an hour's ride, with intense pain in the precordial region, accompanied by a cold perspiration and dyspnœa with a sense of impending dissolution. After three hours of active treatment

partial relief was secured, but the dyspnœa remained as a permanent symptom of some serious derangement of the circulatory apparatus. Dr. Martindale was called to the case April 15. The general appearance of the patient was indicative of exhaustion. The face was flushed and anxious; the temperature 101½°, and the pulse 100, weak, and intermitting every third beat. There was an occasional dry cough, and auscultation revealed some coarse râles at the base of the left lung and an indistinct friction sound near the junction of the third and fourth ribs with the sternum. The respiratory murmur was exaggerated over the middle and lower lobes of the right lung, while the upper part of the left lung was less resonant on percussion. The cardiac area was moderately enlarged laterally and upwards, and the apex beat was scarcely perceptible, a feebly pronounced purring sound taking its place. There was a marked epigastric tenderness, and the area of hepatic dullness was enlarged.

The diagnosis made was subacute endo-carditis, with circumscribed peri-carditis at or near cardiac base. The etiology was obscure, as there was no history of either acute or chronic rheumatism or nephritis or any exanthematous disease since childhood. Under appropriate treatment there was a gradual abatement of the symptoms and of the physical signs, with the exception of the friction sound, which remained and seemed more distinct than at the onset of the attack, demonstrating, as was believed, an extension of the imflammatory process from the serous lining of the pericardium to that of the left lung. By April 27 there was an intermitting of only one beat in seven; the systolic impairment being supposed to be due to a mitral insufficiency. By May 1st, the intermission of the heart-beat had entirely disappeared, but the apex murmur still remained as a symptom of endo-cardial irritability.

The dyspnœa, which had been the cause of the patient's chief distress, ceased, and the relief experienced from its disappearance, with an improved appetite, encouraged the hope of permanent relief from his disability, when on May 3d, Dr. Martindale was hurriedly sent for on account of sudden and severe pain in the right fore-arm. Examination showed the right hand cold and livid, and the radial pulse absent, that of the brachial at its bifurcation being full and regular. A curious complication in connection with this complication was the alteration noted in the supposed mitral bruit, which had been previously quite pronounced. Thereafter it became much less distinct, while the force of the cardiac contraction was increased. The lesion was at once diagnosed as an embolic infarction of the right radial artery; the point of occlusion being at or near the brachial division, as manifested by the lividity and low temperature of the forearm, and the combined numbness and pain referred to the elbow. Subsequently the patient had two attacks of marked dyspnœa, with pain in both legs and œdema of the feet and ankles. By the 1st of July a very appreciable improvement had been again inaugurated; but it was not until the early part of August that the rythm of the right radial artery had become at all comparable with that of the left. In the meanwhile but slight modifications of the precordial bruit were observed.

From a careful inquiry into the previous history of the patient it was learned that in June, 1873, he had been suddenly attacked with a series of symptoms, alarming in their intensity as those of the initiatory stage of the then existing disability, and that a diagnosis of some cardiac lesion, the precise nature of which could not be obtained, was made by the physicians in attendance.

The history of the case thus given was that presented at the meeting of the New York State Medical Society referred to. By August 1st, the patient's general health and the distressing symptoms from which he had been suffering were greatly improved; but the auscultatory evidences pointed to a chronic mitral insufficiency, representing probably, to some extent at least, the first, and certainly, to a much greater degree, the last endo- and peri- cardial attacks, and it was now clear that even should he survive for any length of time, he would unquestionally labor under a permanent cardiac insufficiency, with more or less remote compensatory hypertrophy and dilatation and the functional disturbances resulting therefrom. In December, œdema of the feet and ankles reappeared; the cardiac insufficiency recurring again progressive, with its accompanying dyspnœa, and pericardial line of dulness again rising. Subsequently the patient's disabilities were again relieved to a considerable extent, but by the following April œdema of the lower extremities was again on the increase. The percussion note over the lower third of the pericardial triangle was flat, and the indications generally pointed to a gradually progressive infiltration of the connective tissues. By July 3d, the œdema had extended to the middle third of the thighs and implicated the scrotum and prepuce, while dyspnœa had again become so serious as to render the recumbent position impracticable. By the middle of September the anasarca had become general, and the patient died from œdema of the lungs on October 23d.

At the autopsy there was found general anasarca, with a considerable hæmorrhagic effusion in the pericardium. The apex of the heart was drawn backwards, and was firmly attached to the middle lobe of the left lung; the adhesions involving the two layers of pericardium and pleura. The left ventricular wall had undergone calcareous degeneration, and was very thin at this point. There was considerable cardiac hypertrophy and dilatation, but no valvular lesions were found, with the exception of a single tendinous spot on one of the mitral folds, if that could be regarded as such. The original diagnosis was at fault, therefore, only in attributing the apex murmur to a mitral stenosis, rather than to a roughened and unyielding endocardial surface.

In reviewing the history of this rare case, Dr. Martindale said some important questions relating to the etiology of this lesion arose. (1) Was the initial attack, in 1873, an endo- or peri- carditis, and to what degree were either or both attacks concerned as factors in the subsequent permanent calcareous degeneration? Although the history did not make this apparent, there must have been an etiological factor behind the first attack, since all leading authorities agree that primary idiopathic pericarditis is of extremely rare occurrence. In regard to primary endocarditis, also, there is absolutely nothing known of a positive character. We are, therefore, forced to the conclusion, that the cardiac disability of 1873, in this case, must have had its origin in either a rheumatic or an exanthematous lesion at so early a period in the patient's life that it produced no permanent impression. There could be little doubt, he thought, that the first lesion, in 1873, was a circumscribed pericarditis, with a possible implication,

to a limited extent, of the muscular tissue of the heart. In the initial stage of an acute pericarditis marked derangements of respiration are noticed, particularly if the cardiac muscular tissue becomes involved. Severe pains in the chest and epigastrium have also an influence in determining the degree of dyspnœa; and these, together with the pressure of the pericardial effusion upon the heart, are usually quite sufficient to establish the cyanotic and collapsed conditions so frequently observed in these cases, and which were the marked features of the one under consideration in its early development. Upon a careful examination of the specimen, he said it could be seen that the endocardial surface of the calcified ventricular wall was smooth and polished, while the myocardium was the chief seat of the calcareous deposit; which further tended to substantiate the view that the disability of 1873 started as a pericarditis, but that the myo- and endo- cardium were not seriously implicated until the recurrence of 1886, for it was hardly to be regarded as possible that the pathogenetic conditions of the latter date (even though greatly modified in degree, as compared with those observed in the specimen) could have existed thirteen years without any subjective symptoms whatever.

Another interesting question, he went on to say, had reference to the etiology of the embolic infarction of 1886. For this, there was needed no more reasonable hypothesis (assuming the myocardial lesion existing at this period to have been a sequence of the secondary pericarditis of 1873), than that the left ventricular pericardium was at this time attached by circumscribed adhesions to the left pleura; its contractile power being not only restricted by this, but likewise by the gradual degeneration of the cardiac muscular tissue as well. The blood current through the left ventricle must have been churned, as it were, by the irregular and imperfect contraction of its normal muscular fibres upon the dense and non-contractile myocardial wall; and from this resulted, no doubt, the formation of a small coagulum and its subsequent localization, through the innominate, right subclavian, and brachial arteries, at the seat of the radial infarction.

At this point, he said, the inquiry forced itself upon us as to the possible agency of sepsis in the etiology of cardiac embolism as illustrated in the case before us; and, having referred to several modern authorities, he stated his conviction that it was clear that nothing positive could be affirmed regarding sepsis as an etiological factor in the remarkable cell metamorphosis observed in this specimen.

In conclusion, Dr. Martindale said that the etiology of the tissue change resulting in the calcareous degeneration, involved a question of more than ordinary scientific interest. The hypothesis would seem to be a reasonable one, that its starting-point, in the earlier attack, was the visceral layer of the pericardium, the myocardium having been involved in a slight degree only. The lesion, in the course of the year's disability, became chronic, and finally terminated in resolution, with compensation and measurably impaired cardiac contractility, under which a fair degree of health was enjoyed for thirteen years, from June, 1873, to April, 1886. At the latter date, the etiological factor must have been a subacute endocarditis, with possibly circumscribed pericarditis, subsequently implicating the interstitial and connective tissue of the myocardium. That the endocardium must have been involved early in the second attack, the blood-clot and radial infarction would seem to have established positively; but it could only have been in the later stages of that attack that the circumscribed myocardium became wholly destroyed by tissue metamorphosis, with the resultant thin long septum seen in the specimen.

(To be continued.)

Recent Literature.

A Manual of Diseases of the Ear, for the use of Students and Practitioners of Medicine. By ALBERT H. BUCK, M.D. Clinical Professor of Diseases of the Ear in the College of Physicians and Surgeons, New York, etc. Octavo, pp. 411. William Wood & Co. 1889.

The present work is a modification of the author's Diagnosis and Treatment of Ear Diseases, published in 1880, and we must say very much improved in every way. It has been rearranged, in many places rewritten, is much more systematic than the previous work, and constitutes now a manual of great value.

Anatomy and physiology are treated briefly and well in an appendix only, the book itself being given up to a thoroughly practical treatise in which etiology, pathology and treatment are the prominent features, and many illustrative cases are cited. All subjects are discussed with candor, fairness, without dogmatism, and throughout the book there is a personal flavor which brings one in close and pleasant relations with the author, and reminds one of Watson's Practice, in which this characteristic was so marked as to make that work one of the delights of our student days.

Obstetric Aphorisms for the Use of Students Commencing Midwifery Practice. By JOSEPH GRIFFITHS SWAYNE, M.D. Ninth edition. 16 mo., pp. 159. Philadelphia: P. Blakiston, Son & Co. 1888.

The appearance of the ninth edition of this well-known book attests its continued popularity. It is a pity that in this edition there should not have been incorporated the most recent and improved teachings in regard to aseptic obstetrics, and that clear and explicit rules should not have been given for the student's guidance. The section on puerperal fever is painfully inadequate and antiquated. But in spite of these defects, which must be remedied by the teacher, the book is of great service to students who begin their clinical work in obstetrics before they have received a full course of didactic instruction.

Questions and Answers on the Essentials of Obstetrics, prepared especially for Students of Medicine. By WILLIAM EASTERLY ASHTON, M.D. 16 mo., pp. 220. Philadelphia: W. B. Saunders. 1888.

The object of this little book is indicated by the title. It is based on Parvin, Lusk, Playfair, and other standard authors, and will no doubt prove useful to students in preparing for examination. The book is neatly printed and bound, and has a good index.

—We notice in the northern papers an advertisement of an estate for sale in Virginia, with the following comprehensive statement of hygienic advantages, "Location for climate, health, lungs, rheumatism and asthma unsurpassed."

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FŒTAL MALARIA TRANSMITTED BY THE FATHER.

THE very considerable susceptibility of the fœtus in utero to various diseases, infectious and otherwise, has been naturally most widely associated with conditions of the maternal organism, from the fact of the long-continued and intimate connection of the child with the mother as compared with that which it has with the father. The mother's power for infecting the fœtus is, in other words, twofold; namely, by a vitiated ovum, and also *post conceptum* by influences operating through the placental circulation; while the father has but one such opportunity, namely, by a vitiated spermatozoon.

In the case of one malady, syphilis, it is held by most authorities that the infection of the fœtus may be conveyed solely by the father, the mother remaining uninfected unless by the syphilitic occupant of her uterus.

Tuberculosis, if inherited, shows itself so much later than syphilis as greatly to complicate the problem of its transmission. A few instances in the human subject and in the calf seem to show that the bacilli can traverse the placenta from the maternal organism, and though Cohnheim, with others, taught that tuberculosis was transmissible in the semen and in the ovum, it must be confessed that the drift of recent opinion is against its being conveyed in the generative element of either parent, or at least of the male.

It is possible that in the study of fœtal malaria we may find an aid to the solution of some of these problems of pathological inheritance. For we have here a disease at once infectious and chronic, and like syphilis rather than tuberculosis, early in its manifestations after birth. The existence of fœtal malaria has been sufficiently demonstrated by the observation of interuterine and neonatal chills, accompanied by an enlarged spleen, occurring in the child of a similarly affected mother. If she was infected at the time of conception, she was obviously infected throughout the pregnancy, so that the transmission of malaria *per ovum* could not be demonstrated, because such transmission *per placentam* could not be eliminated. So far as we recall, no instances have hitherto been recorded where the child showing malaria, the father alone of the parents has had the disease.

We find, however, in the *Edinburgh Medical Journal* for June, two cases of great interest in this connection, recorded by Dr. R. W. Felkin, Lecturer on Diseases of the Tropics and Climatology, in the Edinburgh School of Medicine. In both, the father had well-marked malaria, and the mother was free from it; yet the child showed symptoms of the infection.

In the first case, the husband had contracted, on the west coast of Africa, both remittent and intermittent fever, on account of which he threw up his situation there, and went to the island of Madeira, where he met a Lancashire woman, and married her. They remained at Madeira eight months, and then went to Durban, Cape of Good Hope, the wife being eight months pregnant, and never having had any symptoms whatever of malaria. A week after her arrival Dr. Felkin saw her, complaining of a curious sensation in the abdomen, and he distinctly felt the fœtus shaking. The lady said the same thing had happened on several previous occasions, though never so markedly before. The phenomenon occurred at the same hour for four consecutive nights, when labor came on. Forceps were called for, and delivery was obstructed by the distended abdomen of the child caused by enlarged spleen. After birth the child had seven attacks of ague, characterized by the cold, hot and sweating stages. The paroxysm lasted seven hours in all, and the rectal temperature was 102°. The father stated that just before, and for the month following his marriage, he had had several very severe attacks of ague.

A possible objection to assigning the entire responsibility for this case to the father lies in the fact that, after removal to Durban, they were in a place where malaria might be contracted, though of course, the exemption of the woman from all symptoms, and her short stay, would make her a very improbable medium for transmitting the infection to the child; besides that she stated that similar though less extreme shakings of the fœtus had been observed by her before.

In the second case the child's parents had been married twelve years. The mother had never been away from Edinburgh. Three children had been born, all at full time, and quite healthy, during the first seven years after the parents' marriage. The father then went as fireman on a steamer trading with West African ports. The men were forbidden to land at the ports, but the second engineer and this fireman managed to escape several times, and had severe remittent fever. The engineer died, and his death so frightened the fireman that he did not go on shore again, although he remained another year in the service, suffering from ordinary ague. He had never suffered from syphilis. Ten months after his return home a child was born at full time, but it soon "pined away and died." Rather more than a year

later another child was born, which was always ailing, and had a rather enlarged spleen, but was greatly improved by appropriate treatment.

In the last and sixth pregnancy Dr. Felkin observed an attack of pain and fluttering "like a bad quickening," which lasted an hour, and recurred twenty-four hours, and again forty-eight hours later. The woman described it as like attacks she had had with her two previous children. Labor came on after one of these attacks, and the child was born at seven and one-half months. After birth it had two attacks of ague, at intervals of twenty-four and forty-eight hours respectively, and died in the cold stage of the second. In the first attack after birth the cold stage was very well-marked, the child distinctly shivering, and continuing to do so for rather more than half an hour. The hot stage lasted about two hours, and was followed by fairly profuse perspiration, the cotton-wool in which the child was wrapped becoming quite wet. During the attack the temperature was taken several times, and the highest point reached was 102.6°. The post-mortem appearances were fairly confirmatory of the clinical diagnosis of malaria.

If these cases be substantiated by other similar ones, they will go to place malaria beside syphilis as one of the diseases which can be transmitted directly from the father to the child, without the necessary infection of the mother; and if the plasmodium malariæ can gain access to the spermatozoon, may not, after all, the bacillus?

INTESTINAL TROUBLES OF INFANCY.

DR. L. G. BROUGHTON, of Reidsville, N. C., writes to the *North Carolina Medical Journal* on the above subject. As the result of quite an extensive country practice, he has met with only three grand divisions of infantile diarrhœa — simple diarrhœa, cholera infantum, and dysentery. He is satisfied that, in the vast majority of cases, decomposition in the gastro-intestinal tract is the *fons et origo mali*. And he finds these three great indications predominant; first, to clear out the bowels; second, to arrest decomposition and putrefaction; third, to restore healthy action in the alimentary tract.

To meet the first indication there is nothing better than castor oil, provided the stomach can bear it. With many practitioners rhubarb, either in powder in syrup or infusion, answers well in cases where castor oil is objectionable. To meet the second indication he uses salicylate of soda. To a child of from six months to two years old he would give three grains every two or three hours. This, he thinks, may be advantageously combined with pepsin, two or three grains. Another antiseptic of which he speaks in high terms is the sulpho-carbolate of zinc, in the dose of one-sixth to two grains. The third indication is fulfilled by suitable nutrients, as pancreatized milk, scraped raw beef, and tonics, as per-nitrate of iron and columba.

Dr. Victor C. Vaughan, in a late number of the *Dietetic Gazette*, speaks of the requirements necessary in the preparation of food for infants in the intestinal troubles of summer. (1) Cow's milk used as food for infants, should be sterilized. This is best effected by boiling. (2) The proteids in cow's milk may be made to more closely approximate those of woman's milk by partial digestion, at least by conversion into the soluble form. All chemists are agreed that the proteids of woman's milk are more easily digested than the same food stuffs in cow's milk. Dr. Vaughan would, therefore, counsel the partial artificial digestion of cow's milk, when used as food for infants, especially for those of weak digestive organs. On the other hand, he is convinced that this digestion should not be complete. In the first place, the digestive organs would be greatly weakened if the food used for any great length of time should be completely digested before its administration. Moreover, the use of wholly digested proteids in quantity is not free from danger, as experiments have shown that if peptones be directly injected into the blood they are poisonous. Normally it is a function of the liver to arrest and alter the products of proteid digestion in the stomach and intestines; but if a great quantity of ready-made peptones be poured into the stomach, they will be absorbed so rapidly that the liver may fail to perform this function fully.

The deficiency of carbo-hydrates in cow's milk may be supplied by the addition of milk-sugar or dextrin. Milk-sugar is too expensive to be used on a large scale. Common sugar acts as an intestinal irritant, and causes diarrhœa. Starch is not digested by the young child. Dextrine is easily prepared, is not acted upon by the yeast ferment, but is converted by diastase and by the pancreatic juice into maltose.

MEDICAL NOTES.

— A physician of Philadelphia insisted upon driving a fractious horse, and thus disregarded the suggestions of his coachman. The horse ran away, the coachman was thrown out of the carriage, his skull was fractured, and one of his legs was twice broken. Now the coachman sues the doctor, putting his damage at $10,000.

— The subject for a prize competition of essays has just been announced by the Dutch Scientific Society in Harlem. It is a "Critical review and exhaustive description of the different kinds of bacteria contained in drinking water before and after its filtration through sand, and of the methods of determining the characteristics of every kind." The successful competitor will receive a gold medallion or 150 Dutch gulden. The judges will award an extra prize of 150 Dutch gulden if they consider the successful competitor worthy of it. All competitive essays must be filed with the Society's secretary before January 1, 1890, and must be written in the French, Dutch or German language.

BOSTON AND NEW ENGLAND.

— The annual festival in aid of the Carney Hospital will be held in Music and Bumstead Halls, the last Thursday of October next.

— A case is reported from one of the suburbs of Boston, in which a young man suffering from typhoid fever, in his delirium shot and killed his nurse, a woman fifty years of age, and tried to shoot one of his relatives as well. A revolver had, it seems, been left where he could get at it. In the present season of typhoid prevalence too great care cannot be taken to watch with unceasing vigilance patients who are, or are liable to become, delirious from this cause, and to keep them away from any opportunities of doing harm, in a sudden frenzy, to themselves and others.

Miscellany.

AN EXTRA-UTERINE PREGNANCY DATING THIRTY-THREE YEARS.

M. TARNIER presented recently before the *Académie de Médecine*, says the Paris correspondent of the *Medical Press*, a woman, who had an extra-uterine pregnancy since 1856. This pregnancy arrived at the full period, the beating of the fœtal heart being plainly felt. The accoucheur having diagnosed the exact condition of the case, asked the advice of the late Paul Dubois as to a prompt intervention. The latter did not approve of an operation, counselling to leave matters as they were. At the end of a few days the fœtal heart seemed to have stopped, and the pains became much less intense, and finally disappeared completely. The woman returned to her usual duties. In 1859 she consulted the renowned surgeon, Nélaton, but he also refused to interfere. Her present condition is as follows: Beneath the umbilicus an extremely hard tumor is felt divided into two parts, one representing the head, the other the feet of the fœtus. To the touch it is not painful, and the woman seems not to suffer any inconvenience from its presence.

THE INSPECTION OF THERMOMETERS.

AT the thermometric bureau of the Yale College Observatory, during the last year, the comparison of thermometers has continued to be made by Mr. C. B. Peck, says *Science*. The number received for verification during the year ending June 1, 1889, was 7,475, being 249 in excess of the preceding, the maximum year. It is perhaps well to call public attention to the fact, not new, but continually overlooked, that the most accurate thermometers may be made to give false testimony by misinterpretation of their language. Although every certificate issued from this observatory, for other than clinical thermometers, contains a statement of the only conditions under which the correction therein given can be truthfully applied, they are continually called upon to explain, especially in the case of high-temperature thermometers, that, when only the bulb is immersed in a liquid of high temperature, the indicated temperature is too low by an amount depending upon the number of degrees of the mercury in the cooler stem and the difference between the temperatures of the bulb and stem. They have been called upon to show frequently that this error, which is independent of any correction due to the thermometer, may be as much as eight or nine degrees in the case of high temperature oils, as their temperatures are generally measured. A simple remedy for this indefiniteness of measurement would seem to be a special form of thermometer, in which nearly all the mercury should be immersed. Of the same nature is the correction of possibly 0.1° to be applied to clinical thermometers of the "Indestructible Index" form, when the detached column of mercury constituting the index is quite long (expressed in degrees), and is read after removal to a much cooler atmosphere; but the probable error on this account does not exceed the probable error of reading.

CHINESE OBSTETRIC CUSTOMS AND SUPERSTITIONS.

DR. A. M. FIELDE writes interestingly on facts and superstitions concerning pregnancy and parturition as observed at Swatow, China, in the *Philadelphia Medical News* for August 24th.

Nearly all the Chinese women maintain a sitting posture during labor and delivery. A few are unable thus to bring forth the child, and these are called "recliners."

The umbilical cord is never divided until after the emergence of the placenta, because it is supposed that this would cause the contents of the womb to rise and remain among the internal organs, causing speedy death. After the appearance of the placenta, the cord is tied by a thread, about one inch from the umbilicus; a loop is made by bringing the distal portion toward the body; a second knot is tied securely upon the first over the double cord, "to prevent the entrance of wind," and the cord is then cut near the second knot. The part of the cord left with the placenta is not tied.

If there is much delay in the expulsion of the secundines, various methods are pursued in assisting the patient. The mother-in-law or midwife goes behind the house in which the patient lies, raps smartly with a carrying-pole on the wall, and shouts, "Is it out yet?" An assistant responds from inside the house, "It is out." This performance is repeated, with short intervals, until the desired result is effected.

Another method of hastening the expulsion of the afterbirth is to have the patient lean over a horizontal bar, supporting herself partially upon her hands. This sometimes starts the adherent placenta, but is discomforting to the attached infant.

Some midwives insert the hand and detach the placenta, but mothers greatly fear this operation. It is asserted that one woman had her liver pulled out by the attending midwife, and consequently died. Native male physicians are under no circumstances called in cases of childbirth.

A girl that is born face downward, or one that is guilty of micturition or defecation immediately after birth, is straightway smothered, because of a superstition that such a child would be injurious to its parents.

A pregnant woman is advised not to handle edged tools. If she does so, her offspring is likely to lack a finger or a toe, or to have a harelip or a split ear.

Two pregnant women will not sit together on the same bench. As each woman hopes that her child is a male, and as it is thought that there may be an occult exchange of sexes between embryos that are brought into vicinage, it is considered wise to avoid the risk of having the supposed masculine tenant of the womb superseded by a female.

If a child has been touched by a pregnant woman, and sickens soon afterward, its mother winds a skein of silk made up of threads of five colors around a potato and roasts the potato in ashes. If the silk is burned during the process of roasting, it indicates that the ailment was not caused by the touch of the pregnant woman. But if the silk is not burned, as sometimes happens, then the mother of the injured child throws the potato over her house, and it is believed to produce a miscarriage in the woman who has caused the disease, while the sick child recovers.

Many men have purses made by women approaching confinement, hoping that the woman's plethoric condition will be mystically reproduced in the money-bag!

BLINDNESS IN ENGLAND.

THE number of the blind in the United Kingdom, according to the last census, was 32,296, says the *London Times*, being at the rate of 879 blind persons per million of the general population, as compared with 950 in 1871, 964 in 1861, and 1,021 in 1851. The decrease in blindness would thus appear to be gradual but steady, even allowing for the fact that many who have very defective sight and are practically blind object to return themselves as such. The number of those of school age in England and Wales, is 1,710, or one-thirteenth, a surprisingly small proportion, which points to the fact, well known to specialists, that blindness, as a rule, supervenes in later life, the average age of the blind being forty-nine. Their general condition has been much improved of late years, owing to the prevalance of more enlightened notions and the increase of special institutions. But the Commissioners remark that, in spite of the large charitable funds and philanthropic efforts devoted to their welfare, they feel convinced much may be done to better the condition of the blind and render them more independent of charitable aid than at present.

Accidents from flying pieces of stone or chips of metal are accountable for 58 per cent. of injuries to the eye, and in the case of 4 to 4½ per cent. of such accidents the sympathetic inflammation of the remaining eye, which so often sets in, leads to total blindness. Shuttle accidents, formerly very frequent, were diminished by the introduction of shuttle guards, and the number of cases at the Royal Eye Hospital, Manchester, decreased from twenty-one in 1884 to nine in 1885. Strong protective glasses of talc or mica or fine wire goggles are a valuable safeguard against such calamities, and early surgical treatment is of high importance. Granular ophthalmia in badly-ventilated and badly-lighted dwellings is another cause, but with proper sanitary precautions this is preventible, and during the recent occupation of Egypt no loss of sight from ophthalmia occurred among our troops, owing to the excellent care exercised by the medical staff.

One of the most fruitful causes of blindness is the inflammation of the eyes of newly-born infants, and the Ophthalmological Society estimated that 30 per cent. of the inmates of the institutions, and 7,000 persons in the United Kingdom, had lost their sight from that cause. Various specifics are mentioned by the Commissioners, but they all seem to depend chiefly for their success on prompt application.

THE TREATMENT OF LACERATION OF THE CERVIX BY THE OBSTETRICIAN.

IN the Obstetrical Section of the American Medical Association, at its recent meeting, Dr. Henry C. Coe read an important paper on the above subject, in which he remarked, as reported in the *American Journal of Obstetrics:*

It is common to hear patients abuse the accoucheur for lesions resulting from parturition, for the cure of which they are obliged to consult the gynecologist. The gynecologist himself is not always prompt to defend his *confrère*. Perhaps it is because in many instances he cannot conscientiously do so. It is not the purpose of this paper to enter into a discussion of the question of actually preventing serious lesions of the genital tract by proper attention during parturition. There is great difference of opinion as to the percentage of lacerated cervices in which the tear might have been prevented. Of course the prophylaxis can usually be observed only where the accoucheur himself performs some manipulation within the os. In such cases, as well as in rapid labors and occipito-posterior positions, we should be on the lookout for laceration of the cervix, and be ready to treat it when it occurs. The tendency of scientific obstetricians now is to leave the genital tract as far as possible alone after parturition, on the same principle that the surgeon relies upon his antiseptic details during the operation and does not disturb the dressing as long as there is no rise in temperature. We may go to the other extreme. The "antiseptic pad" of Garrigues has led to abuses in the way of non-interference where local examination and treatment were urgently indicated. In our anxiety to avoid "meddlesome midwifery" we may make too light of lesions that are really serious. The accoucheur should never, in his exultation at having successfully terminated a difficult case of labor, lose sight of the fact that while the patient may forget that he saved her life, she can never forget or forgive his making light of a laceration of the cervix or perineum for which she must undergo a subsequent operation. Whenever we have reason to suspect that a laceration of the cervix has occurred, we should look for it and treat the case accordingly. The treatment may be immediate or secondary.

(1) *Immediate.* — In a small number of cases (version or instrumental delivery) the cervix is so deeply torn that the hæmorrhage from the circular artery is sufficiently dangerous to threaten. Here prompt action is necessary. One or two deep wire sutures should be introduced. The practice of introducing tampons, giving astringent injections, etc., under these circumstances is to be condemned. Follow the ordinary surgical rule — to ligate the severed artery.

(2) *Secondary (or subsequent) Treatment.* — Do not attempt to repair the laceration by sutures, either at the time the laceration occurs or during the puerperal month. Wait until involution has proceeded — at least three months. Rely on perfect cleanliness, anti-

septic vaginal injections, and iodoform suppositories. Local applications to the torn cervix during the puerperal month are reprehensible. Keep the patient in bed longer than usual. Be on the watch for septic infection, especially the insidious form of parametritis. When the patient goes about, support the uterus with a pessary if it remains large and tends to sag downward.

As a result of this treatment, many cases of extensive lacerations of the cervix heal during the puerperium. References to author's experience in private and hospital practice and Dr. Emmet's views confirmed this.

Conclusion. — We are still far from realizing the scope of preventive medicine. No reason why such a large proportion of female ills should originate from what we denominate a "physiological process." Nature is kind, but we sometimes trust her too much. It should be the aim of the obstetrician to forestall the gynecologist. Allusion has been made to only one puerperal lesion, but how many more serious troubles (salpingitis and oöphoritis) might be avoided by greater care of the woman during and after labor? The subject is not a new one, and the author merely seeks to reawaken interest in it. The general practitioner should feel his responsibility more. It should be his aim to look beyond immediate results to those more remote. His present triumphs should not be bought at the expense of future and well-merited blame.

Correspondence.

[From our Special Correspondent.]

PARIS LETTER.

PARIS, August 16, 1889.

MR. EDITOR, — That most important question anent the marriage of syphilitic subjects has been very ably treated of by Dr. Langlebert, Jr., the well-known syphilographer. He is far from the opinion of some medical men, who would interdict the marriage of all syphilitic subjects. Supported by the statistics of Diday and the long experience of his father, who is also a well-known syphilographer, he proposes certain rules by which, if acted upon, a syphilitic subject may marry without any fear of seeing his progeniture suffer from his antecedents. It is, of course, understood that the patient should not be the subject of contagious accidents. If he is affected with tertiary accidents, and consequently non-contagious, these accidents should not result in any persistent organic decay. A certain time should be allowed to elapse from the commencement of syphilis and the appearance of the last specific accidents. According to the statistical researches of Diday, for severe syphilis, the longest period that elapsed between two successive eruptions, was one hundred and thirty-two days. Dr. Langlebert admits that a person who, having had a slight attack of syphilis, properly treated during fifteen or eighteen months, and passed one year without being affected, may be considered cured. However, he would still recommend, as a test, another year; and when the marriage is decided upon, he would exact that the patient be again submitted, *ante nuptias*, to a specific treatment of two or three months. These rules appear simple enough, but some medical men affirm that syphilitic subjects may have fresh accidents after a more considerable time.

To this, Dr. Langlebert replies, that these accidents are not contagious, and consequently cannot be transmitted to the wife. Moreover, in a note previously published, the author admits that the father cannot himself alone transmit syphilis to his children; the children have nothing if the mother had not been previously infected. It is much more rare that a syphilitic woman desires to contract marriage. In this case, Dr. Langlebert admits that the absolute interdiction should be the rule.

In connection with this subject, I may here give the summary of a clinical lecture recently delivered by Dr. Mauriac, at the Hôpital du Midi, a hospital for venereal affections in the male sex. To the question, whether a man once affected with syphilis can marry without any risk of infecting his wife, Dr. Mauriac replies, that it is prudent to wait a more or less long time; and he does not think, that, as a general rule, a syphilitic man should be condemned never to marry. He should, however, be advised not to marry before the third year which follows the appearance of the primary chancre, or, at any rate, never before the completion of two years, and then only on the condition that the patient had been submitted to the usual anti-syphilitic treatment. The interdiction should be absolute when the chancre has assumed a phagedenic character, or when the organism is considerably damaged by the disease. In these conditions marriage should be postponed until cure, or the disappearance of the accidents should take place. When the chancre is of a mild type, when there are only slight secondary lesions which yield to the influence of treatment, the patient may, without danger, contract marriage eighteen months or two years after. As regards the treatment of syphilis, Dr. Langlebert, with his father, thinks that mercury is *the* specific which is certain and infallible against the accidents of the secondary period, but he recommends that this medicament should be given only during the existence of the eruptions, and always in small doses. He even attributes to a chronic mercurial intoxication a certain number of accidents which other medical men attribute to cerebral syphilis, — cephalic, tremors, contractures, clonic convulsions, epilepsy, hemiplegia, locomotor ataxia (in certain cases), and particularly in intellectual disorders. The author is far from adopting the extreme hydrargyrism of Professor Fournier. He preferably recommends the administration of mercury by the stomach, frictions and subcutaneous injections being reserved for certain grave accidents, ocular or cerebral, against which the rapidity of the therapeutic action is the only condition of success. The duration and the resumption of the mercurial treatment will be measured by the duration and the returns of the secondary accidents of syphilis. Corrosive sublimate should be preferred to the protiodide of mercury. It should be given preferably in small doses, as it then acts as a tonic and reconstituent; in large doses, it is debilitating and dangerous for the nervous centres. The iodide of potassium is, on the contrary, the veritable specific for the more chronic stages of syphilis. It is advisable to commence its use about the fifth or sixth month. The average dose should be from one gramme to one gramme and fifty centigrammes per day. This iodide medication should be continued for about eighteen months, with periods of rest sensibly equal to the periods of treatment. At the end of these eighteen months the treatment of syphilis may be considered as completed, although it may still be prudent to resume the iodide of potassium for two or three months in the three consecutive years.

At a recent meeting of the Academy of Medicine, Dr. Dumontpallier read a note on a new treatment of endometritis, by the introduction, into the uterine cavity, of sticks of the chloride of zinc which are rendered supple, so that when once in the cavity, they become bent in all directions. But before the introduction of these sticks, the vagina is washed out with a solution of carbolic acid, of one per cent.; then the hysterometer, previously rendered aseptic, is introduced into the uterine cavity, to ascertain the direction of the latter. These sticks are left in the uterus; then after washing out the vagina, a plug is introduced, but the latter is not indispensable. In general, the slough produced by the caustic is expelled in about five days after its application. Vaginal antisepsy is strictly carried out, and the cure is effected two days after the escape of the slough. There has never been any narrowing of the uter-

ine cavity, and menstruation was soon restored. The author considers this method very inoffensive; for out of one hundred cases, there were ninety-six cures without complications, and four cures after complications due to imprudence committed by the patients. A certain degree of pain was caused by the caustic, but this soon became tolerable; but in many cases there was no pain. The general phenomena were *nil*, and there was no fever. From twenty-four to thirty-six hours after the cauterization a slightly rose-tinted discharge is observed, which precedes the escape of the slough. The vagina is then washed out with the liquor of Van Swieten.

DR. A. RICHET.

This gentleman is Professor of Clinical Surgery at the Hôtel Dieu; but he is now only nominally attached to this post, as for the last three years he has lived retired in his country house near Toulon, and has been replaced by *agrégés* of the faculty. This year he has been replaced by Dr. Kirmisson, a very distinguished surgeon. Dr. Richet was considered a very good surgeon of his time. He is now almost an octogenarian, and his doctrines are regarded as out of date. It must, however, not be forgotten that, about thirty years ago, Professor Richet was looked upon as one of the leaders in French surgery. His "Practical Treatise of Surgical Anatomy" opened out a new line, rendered the most eminent services, and obtained for the author a European reputation. This work, or as he proudly termed it, "The Book," is almost obsolete, as its contents are not altogether in keeping with the progress of the day. It will, nevertheless, be a lasting memorial to his fame. Notwithstanding his age, he had a certain amount of vigor, both mental and physical; but since the death of his wife, which took place about three years ago, under most painful circumstances, he gradually broke down and felt that he could no longer continue the active functions of his office. Before retiring, however, he has had the satisfaction of seeing his son, Dr. Charles Richet, grow to manhood, become successively Doctor and *Agrégé* of the Faculty of Medicine, and now become his colleague, as he is Professor of Physiology at the Faculty of Paris, which post he fills with great talent and honor.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 17, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	751	340	28.73	15.47	20.41	1.95	3.38
Philadelphia	1,040,245	389	192	25.48	9.62	15.86	4.42	3.12
Chicago	830,000	482	284	36.96	7.98	24.78	4.83	2.94
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	193	104	35.64	9.18	27.00	3.78	1.08
St. Louis	450,000	154	74	22.10	5.85	10.40	3.35	5.20
Boston	413,567	203	96	29.40	9.80	19.60	4.44	2.94
New Orleans	250,000	93	33	23.76	14.04	15.12	2.16	2.16
Cincinnati	225,000	—	—	—	—	—	—	—
Washington	225,000	113	54	26.70	22.25	18.69	1.78	1.78
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	—	—	—	—	—	—	—
Charleston	60,145	54	27	24.05	7.40	16.65	—	—
Portland	40,000	21	6	23.80	19.04	23.80	—	—
Worcester	78,292	29	14	55.20	3.45	55.20	—	—
Lowell	71,518	47	26	38.34	8.52	25.56	2.13	8.52
Cambridge	65,552	32	15	40.69	12.52	34.43	3.13	3.13
Fall River	62,647	44	30	40.86	6.81	38.59	2.27	—
Lynn	53,334	28	—	42.84	10.71	35.70	3.57	3.57
Springfield	40,731	19	9	21.04	15.78	5.26	—	5.26
Lawrence	40,619	33	17	56.66	—	29.97	3.33	23.33
New Bedford	37,253	20	11	30.00	5.00	25.00	5.00	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	14	10	42.84	—	42.84	—	—
Brockton	28,813	8	3	37.50	—	25.00	12.50	—
Chelsea	28,167	11	2	18.18	18.18	18.18	—	—
Haverhill	26,058	10	4	50.00	—	40.00	—	—
Taunton	25,170	—	—	—	—	—	—	—
Gloucester	24,263	6	5	16.66	33.33	—	16.66	—
Newton	21,553	11	8	54.54	—	27.27	—	18.18
Malden	19,774	13	10	30.66	7.69	23.07	—	—
Fitchburg	17,534	5	1	20.00	—	20.00	—	—
Waltham	17,332	2	0	—	—	—	—	—
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	11	4	9.09	18.18	9.09	—	—
Quincy	13,728	6	3	66.66	—	33.33	—	33.33

Deaths reported 2810: under five years of age 1382; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas, and fevers) 862, consumption 596, acute lung diseases 137, diarrhœal diseases 596, diphtheria and croup 90, typhoid fever 87, whooping-cough 33, scarlet fever 19, malarial fever 18, cerebro-spinal meningitis 12, measles 4, erysipelas 2, typhus fever 1. From whooping-cough, New York 12, Chicago and Boston 5 each, Philadelphia and Springfield 2 each, Baltimore, St. Louis, Washington, Haverhill, Gloucester, Newton and Malden, 1 each. From scarlet fever, Chicago 6, Philadelphia and St. Louis 4 each, Baltimore and Washington 2 each, Lowell 1. From malarial fever, New York 6, Baltimore, New Orleans, and Charleston 4 each. From cerebro-spinal meningitis, Chicago 6, New York 3, Washington 2, Philadelphia 1. From measles, Chicago 3, New York 1. From erysipelas, New York and Chicago 1 each. From typhus fever, Philadelphia 1.

In the 28 greater towns of England and Wales, with an estimated population of 9,555,406, for the week ending August 3d, the death-rate was 21.0. Deaths reported 3763: infants under one year of age 1361; acute diseases of the respiratory organs (London) 182, diarrhœa 578, measles 79, whooping-cough 69, diphtheria 65, scarlet fever 59, fever 41.

The death-rates ranged from 14.1 in Brighton to 42.6 in Preston; Birmingham 23.1; Bradford 20.9; Hull 21.8; Leeds 23.2; Leicester 21.5; Liverpool 23.4; London 18.4; Manchester 27.0; Nottingham 19.7; Sheffield 20.7; Sunderland 28.8.

In Edinburgh 17.2; Glasgow 20.5; Dublin 20.7.

The meteorological record for the week ending Aug. 17, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending Saturday, Aug. 17, 1889.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.		Velocity of Wind.		State of Weather.[1]		Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.		8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, . . 11	29.94	68.0	75.0	61.0	70		63	66.0	W.	W.	18	4	C.	C.		.0
Monday, . . 12	30.08	64.0	72.0	56.0	64		80	72.0	N.W.	W.	8	10	C.	C.		.0
Tuesday, . . 13	30.14	64.0	68.0	6 .0	79		82	80.0	S.W.	S.W.	8	4	O.	O.	1.05	.T
Wednes. . . 14	29.90	64.0	68.0	60.0	97		72	84.0	N.E.	N.	13	9	R.	O.	14.25	1.48
Thursday, . 15	29.83	58.0	61.0	56.0	94		›9	92.0	N.E.	S.	8	4	O.	O.	0.10	.T
Friday. . . . 16	29.91	65.0	74.0	56.0	83		63	73.0	W.	W.	8	7	F.	C.	.0	.0
Saturday, . 17	29.99	67.0	77.0	57.0	70		65	65.0	W.	W.	8	9	C.	C.		.0
Mean for Week.																

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 19, 1889, TO AUGUST 23, 1889.

Leave of absence for one month is granted Lieutenant Colonel JOSEPH C. BAILY, surgeon U. S. A.; Medical Director, Headquarters Department of Texas, San Antonio, Texas, August 17, 1889. S. O., 54, Headquarters Department of Texas.

Commanding officer at Jackson Barracks, Fla., telegraphs the adjutant general of the army, that Major Harney E. Brown, surgeon U. S. A., died at Jackson Barracks, August 20, 1889, at 1.40 o'clock, P. M.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING AUGUST 24, 1889.

W. K. SCOFIELD, medical inspector. Detached from the "Lancaster."

C. T. HIBBETT, past assistant surgeon. Detached from the "Lancaster."

C. H. WHITE, medical inspector. Ordered to "Pensacola."

F. A. HESLER, past assistant surgeon. Ordered to "Pensacola."

L. W. CURTIS, past assistant surgeon. Ordered to the "New Hampshire."

W. H. JONES, surgeon. Detached from the "Pensacola." Placed on waiting orders.

L. VON WEDEKIND, assistant surgeon. Detached from the "New Hampshire" and ordered to the "Pensacola."

DEATH.

In Longmeadow, Mass., August 20th, Thomas L. Chapman, M.D., M.M.S.S.

SOCIETY NOTICES.

AMERICAN DERMATOLOGICAL ASSOCIATION. — Programme of the Thirteenth Annual Meeting, to be held at 19 Boylston Place, Boston, Mass., September 17, 18 and 19, 1889.

First Day. — Morning Session at 10.30, A. M. Papers: Address by the President, Dr. J. E. Graham; (1) Clinical Notes on Herpes Zoster, Dr. F. B. Greenough; (2) Microscopical Studies of Malignant Tumors of the Skin, Dr. C. Heitzmann; (3) Clinical Observations on Injections of Insoluble Mercurial Salts in Syphilis, Dr. H. G. Klotz. Afternoon Session at 3.30, P M. Papers: (4) Contribution to Dermatological Bibliography, Dr. G. T. Jackson; (5) Clinical Notes on Sycosis Capillitii, Dr. J. Zeisler; (6) Two Cases of Eczema Mercuriale, Dr. J. F. Shepherd; (7) A Case of Urticaria Pigmentosa, Dr. H. W. Stelwagon.

Second Day. — Morning Session at 10.30, A. M. Report of Committee on Statistics. Report of Committee on Nomenclature. Papers: (8) A hitherto undescribed form of New Growth of the Vulva, Dr. R. W. Taylor; (9) Observations on a disputed point in Infantile Eczema — Some general suggestions in Dermatological Therapy, Dr. S. Sherwell; (10) Additional Cases of Dermatitis Palmaris and Plantaris, Dr. L. D. Bulkley. Afternoon Session at 3.30, P. M. Papers: (11) Dermatitis Papillaris, Dr. C. Heitzmann; (12) On the Occurrence of Prurigo in America, Dr. J. Zeisler; (13) On the alleged tolerance of the Iodids in Syphilis, Dr. H. W. Stelwagon; (14) Relapse of Pemphigus Foliaceus after twelve years' quiescence — Case of Impetigo Herpetiformis, Dr. S. Sherwell.

Third Day. — Morning Session at 10, A. M. Demonstration of Cases. Retirement of Old and Induction of Newly Elected Officers.

All physicians are cordially invited to attend.

G. H. TILDEN, M.D., *Secretary.*

AMERICAN PÆDIATRIC SOCIETY. — Organized in Washington, D. C., September 18, 1888. Preliminary Programme.

The meetings will be held at the Army Museum Building, Washington, D. C., on the 20th and 21st of September, 1889. One of the afternoon meetings will be held in the Johns Hopkins Hospital, Baltimore, Md., by invitation of the Director of the Hospital.

Papers. — Address by the President. A. D. Blackador, Montreal: Notes on a case of Ataxia in a child of ten years. W. D. Booker, Baltimore: A study of some of the Bacteria found in the dejecta of infants afflicted with Summer Diarrhœa (second communication). Dillon Brown, New York: Noisy Respiration. A. Caillé, New York: Prolapsus Recti due to large stone in the bladder, in a girl three years old; Two cases of Nystagmus associated with choreatic movements of the head in rhachitic babies; Septic Diphtheria with unusual sequelæ; Personal Prophylaxis in diphtheria. Charles W. Earle, Chicago: Subcutaneous Emphysema in children; The necessity of prolonged rest after some attacks of Diphtheria; Two cases of Carpo-pedal Contraction. J. Henry Fruitnight, New York: The treatment of Scarlet Fever and its complications. Francis Huber, New York: Spurious Meningocele; Double Empyema. A. Jacobi, New York: Aneurism in early life. John A. Jeffries, Boston (by invitation): A contribution to the Summer Diarrhœas of Infancy. H. Koplik, New York: Tuberculosis of the Testis in childhood. Thomas S. Latimer, Baltimore: Cases of Spastic Paraplegia. I. N. Love, St Louis: Scarlet Fever. Arthur V. Meigs, Philadelphia: The Artificial Feeding of Infants. W. T. Northrup, New York: ——. J. O'Dwyer, New York: Case of Diaphragmatic Hernia, with operation; The apparent physical contradiction involved in the reinflation of a collapsed lung while an opening remains in the pleural sac. William Osler, Baltimore: A case of simple Muscular Atrophy of the facio-scapulo-humeral type; Cerebral Sclerosis in children. A. Siebert, New York: Diphtheria. J. L. Smith, New York: ——. H. N. Vineberg, New York: Some practical points on diagnosis and treatment of Malaria in children. V. W. Vaughan, Ann Arbor: ——.

A. JACOBI, *President.*

T. L. LATIMER, *Chairman Com. Arrangements.*
W. D. BOOKER, 851 *Park Ave., Baltimore. Md.*

BOOKS AND PAMPHLETS RECEIVED.

Death from Electrical Currents. Reprint. New York. 1889.

Yellow Fever. A New Treatment. A Forecast for 1889. New York. 1889.

Note on Nomenclature. By Dr. Donald Macalister. Co-Editor of "The Practitioner."

Roosevelt Hospital, New York, Seventeenth Annual Report from January 1, 1888, to December 31, 1888.

The Modern Frankenstein. By George M. Gould, M.D. Chicago: The Open Court Publishing Co. 1889.

Annual Announcement of the New York Polyclinic and Hospital. A Clinical School for Graduates in Medicine and Surgery. Session of 1889-1890.

Original Articles.

SOME REMARKS ON TYPHOID FEVER, WITH AN ANALYSIS OF ONE HUNDRED AND TWENTY-NINE CASES TREATED IN HOSPITAL, AND SPECIAL REFERENCE TO RELAPSE.[1]

BY FREDERICK C. SHATTUCK, M.D.,
Professor of Clinical Medicine in Harvard University, Visiting Physician to the Massachusetts General Hospital, etc.

HAVING exchanged a summer for a spring service, and being consequently likely to have fewer cases of typhoid fever to treat in hospital, in coming than in past years, I determined to analyze, with reference to certain points, all the cases of this disease which entered my wards during my term of service in the years 1886, 1887 and 1888. The number of cases is not large enough to allow the deduction of any very general conclusions, and yet this analysis may be compared with those of others who deal with larger figures, may perhaps contribute in some small degree toward the structure of our complete knowledge of the subject, and has certainly proved interesting and instructive to me. The fact that the cases were nearly equally distributed between three successive years, diminishes somewhat the sources of error which may be connected with the study of the cases of a single year; and they were also under the care of the same person, in the same institution, and were treated on precisely the same general plan, — essentially the so-called expectant.

With very few exceptions the cases were in adults. Abortive cases have not been counted among the number, which includes only those to the diagnosis of which no reasonable doubt can attach. I find it difficult to understand how anybody who has studied the subject, and has had also a moderate experience, can deny that typhoid fever may abort, the intestinal lesions probably never reaching the stage of necrosis and ulceration. The characteristic lesions are not accessible to direct sight and touch in all cases, fatal and non-fatal alike, as they are in the more purely eruptive specific fevers, the existence of extremely mild and abortive cases of which is not questioned. There are, moreover, a sufficiency of house and local epidemics recorded in which some of the exposed individuals went through the fully developed disease, or died during its progress; while others, presenting prodromal and initial symptoms the same in kind, and of equal, less, or even greater severity, were apparently quite well again within a week, more or less. Indeed, it seems to me that there is absolute proof that typhoid fever may exist and even prove fatal, without the presence of fever at any time, with even sub-normal temperature throughout. Strube,[2] in a typhoid epidemic among the German troops besieging Paris, was struck by the low range of temperature which characterized the outbreak. He tells us that fourteen cases had a normal or subnormal temperature throughout. In one of these, the first rise was co-incident with suppuration about the rectum, which helped to carry the man off. At the autopsy, fully formed and typical typhoid lesions were found. In these cases all the usual symptoms, including even furious delirium, were present. Fraentzel,[3] in charge of another military hospital at the same time, was also struck by this peculiarity of the temperature. Again,[4] a soldier enters a hospital in India for eczema, is free from fever or other general symptoms, dies suddenly, and is found to present typhoid lesions on the autopsy table. These considerations are of importance in estimating the general mortality rate of the disease. Excluding, then, all abortive or otherwise doubtful cases, those cases are included which proved fatal within a few days of admission, the patients entering in a desperate condition.

I. The number of cases, by years, with the yearly and total mortality rate, is as follows:

TABLE I.

	1886.	%	1887.	%	1888.	%	Total.	%
Number of cases,	39		45		45		129	
Recovered,	35	89.7	42	93.33	41	91.2	118	91.63
Died,	4	10.3	3	6.67	4	8.8	11	8.37

A mortality rate of 8.37 % is not high, except as compared with the recent and large statistics of Brand and his followers. Hæmorrhage occurred in two of the fatal cases, but in only one of these it was sufficient in itself to excite alarm. Cheyne-Stokes respiration was noted in two; in a like number, broncho-pneumonia played an important part; in one, pericarditis was a complication; in one, general convulsions closed the scene after the fever had nearly run its course; one death took place during a relapse, the patient being fifty-four years of age; in four, deaths occurred within a week after entrance. In none of the fatal cases was unusually or continuously high fever a feature.

II. The state of the bowels, the occurrence of epistaxis, and the existence of splenic enlargement.

TABLE II.

	1886.	%	1887.	%	1888.	%	Total.	%
(a) *Bowels.*								
Diarrhœa,	11	28	6	13	15	33	32	25
Constipation.	17	44	14	31	16	35+	47	36
Alternating,	4	10	16	37	11	24+	31	24
Regular,	7	18	9	19	3	7	19	15
(b) *Epistaxis.*	18	46	14	31	16	35	48	38
(c) *Spleen.*								
Area of dulness,	26	67	27	57	16	35	68	53
Organ felt,	9	23	15	33	9	20	33	25.5

This table shows that in 51 % of all the cases there was no diarrhœa at any time; that in 36 % the bowels moved only after enemata, which, in these cases, I order every second day. In the cases included under the heading "alternating," looseness of the bowels was only a transitory feature; and in only 25 % was this symptom really prominent, a smaller percentage than what is said in the text-books would lead one to expect.

Splenic enlargement, I cannot help thinking, is not an absolutely constant accompaniment of typhoid. Of course there are cases in which a rigid or tense abdominal wall presents insuperable difficulties to satisfactory palpation; there are those in which tympanites completely masks the splenic dulness; while there are, again, others in which fæces in the descending colon may on one or two examinations give rise to a dulness simulating that due to splenic tumor. But I feel sure that I have watched a fair number of cases in which I should have been able to feel the organ if enlarged, and failed to do so in repeated examinations. Indeed, I never feel sure of enlargement unless I can feel the organ descend on deep inspiration.

[1] Read before the Boston Society for Medical Improvement, May 27, 1889.
[2] Berliner Klin. Wochen., 1871, p. 357.
[3] Zeitschrift der Klin. Med., Bd. II.
[4] Dublin Journal of Medical Sciences, July, 1887.

No analysis of the frequency of rose spots, delirium, or tenderness and gurgling in the right iliac fossa was made.

III. The frequency and character of the complications and sequelæ, other than relapse, is shown in

TABLE III.

Intestinal hæmorrhage	7	5.4%
Venous thrombosis (femoral)	9	7
Furunculosis	10	7.7
Otitis media	3	2.3
Parotid or submaxillary swelling (in no case suppuration)	4	3
Periostitis	2	
Lobar pneumonia	2	
Melancholia	1	
Hemiplegia (embolic, early)	1	
Neuritis	3	2.3

The above list calls for no special comment; perforation is conspicuous by its absence.

IV. The next table shows the frequency of relapse, the significance attached by me to which term will appear further on.

TABLE IV.

1886.	1887.	1888.	Total.
7 17.66%	8 17.77%	6 13.33%	21 16.28%

It is not an easy matter to ascertain the frequency with which relapse is encountered by leading writers on typhoid, owing to the lack of a uniform definition of the term. The Germans, as a rule, class under this head only those secondary attacks which are preceded by an interval of apyrexia of varying length; recrudescence denoting a secondary attack which begins before the complete defervescence of the primary attack. English writers, on the other hand, notably Pearson Irvine,[5] the author of the best monograph on the subject in our language, with which I am acquainted, uses "relapse" as denotative of the renewal of the complete typhoid process, irrespective of the time of its onset; while the term "recrudescence" is applied to the pyrexia, more or less transitory, attributable to a complication, sequela, or an error in diet. In other words, fever recrudesces; typhoid fever relapses. It seems to the writer that Irvine's definition is the better of the two; a relapse is a relapse, at whatever time it may begin, whether intercurrent or consecutive. It may be that in the former the fresh crop of bacilli starts from the intestinal tract directly; in the latter that the spleen or some other part has served as a sort of half-way house for the storage of potentially active bacilli which, again reaching the intestinal glands, reproduce their kind. This may be true, but is at present purely hypothesis.

Schmidt,[6] analyzing 561 cases, finds the percentage of relapse, in the English sense, to be 11.6 (intercurrent 4.8%); Ziemssen,[7] in 832 cases, finds consecutive relapse in 13%; Steinthal,[8] in 539 cases, in 7.5%. The event under consideration was, therefore, rather more frequent in my cases than in those of Schmidt, probably rather less so than in those of Ziemssen. By other authorities the frequency is set down as varying from 5 to 15 per cent. Ziemssen, following Gerhardt, thinks that relapse is to be expected if the splenic tumor does not subside with the subsidence of the fever of the primary attack. My experience has satisfied me of the truth of Irvine's observation, that a relapse may be so free from symptoms apart from the fever, which itself may be trifling, as to be entirely overlooked if temperature observations are omitted as soon as the primary fever ceases. It is, moreover, probable that a relapse may abort; may be of very short duration; may occur at such a period in the primary attack, may be overlain by a complication, or otherwise so obscured as to be extremely difficult, or even impossible, of recognition. In this analysis all doubtful cases have been thrown out.

Relapse occurred in twenty-one cases; in one of these it was repeated a second time; we have thus twenty-two secondary attacks for study.

(1) Intercurrent or consecutive.

In eleven the relapse began before complete defervescence, in eleven after; 50% in either case. By defervescence is implied the first normal evening temperature. This fact seems to me to show conclusively, if indeed the point needs any further demonstration, that we are now powerless to prevent relapse, and that errors in diet are in no way causative of it. In the great majority of my cases the relapse started without any change from the liquid, oftentimes exclusively milk, diet. This point seems to me worth insisting on, if for no other reason because the laity are still in the darkness with regard to it, which enshrouded us until comparatively recently. Constipation, nourishment unsuitable in kind or too large in amount, the excitement of a visit, or a number of other causes may produce a return or an exacerbation of fever; to produce a relapse there must be a re- or auto-infection.

(2) Interval.

In my eleven intercurrent relapses the renewal of the process took place from the third to the fifth week, but this is a point on which I do not lay much stress, as it is proverbially difficult, especially in hospital cases, to fix the onset of the disease. The apyrexial interval which separated the primary from the secondary attacks, in the eleven cases of consecutive relapse, is shown in the following table:

TABLE V.

1 day in 2 cases.	6 days in 1 case.
2 days in 4 cases.	8 days in 2 cases.
3 days in 1 case.	9 days in 1 case.

Of course there is a slight liability to error in fixing the date of onset, but it is very much less than obtains with the primary attack.

(3) Duration.

Of the twenty-one recoveries, — one patient, fifty-four years old, died on the eighth day of a relapse, — the duration of the secondary attack was as follows.

TABLE VI.

11 days in 1 case.	21 days in 3 cases.
14 days in 1 case.	23 days in 1 case.
15 days in 2 cases.	24 days in 1 case.
16 days in 4 cases.	26 days in 1 case.
17 days in 3 cases.	27 days in 1 case.
19 days in 1 case.	29 days in 1 case.
20 days in 1 case.	

This gives an average of nineteen days, a period somewhat shorter than that belonging to primary attacks. This average duration corresponds closely with that which Irvine believes to represent the truth. Ziemssen and other German writers speak of relapses lasting four, five or six days, and their average duration is thus brought down to eleven to fourteen days. If abortive primary attacks take place there is cer-

[5] Relapse of Typhoid Fever, London, 1880.
[6] Deutsches Archiv. f. Klin. Med., 1888, Bd. 43, p. 127.
[7] Ibid., 1884 Bd. 34 p. 375.
[8] Ibid., Bd. 34, p. 357.

tainly no reason why secondary attacks should not also abort. I believe that they may, but have excluded cases which might have been classed here, because I believe the clinical distinction between such very short relapses and some obscure complication, to be a difficult one, and my records are not as complete with reference to outbreaks of fresh rose spots and persistence or renewal of splenic tumor, as I could wish. The temperature curve alone may be sufficient for the diagnosis of a fully developed relapse; but other points must, it seems to me, be taken into account to establish the presence of an abortive relapse. The single death, a mortality of less than 5%, was in a consecutive attack. My limited experience does not bear out the German view that the intercurrent are much more severe and dangerous than the consecutive attacks. Ziemssen's mortality rate for the former is 15.5%, for the latter, 2.8%.

(4) Temperative curve.

This, according to Irvine, has in relapse two marked peculiarities: first, the maximum is reached with a striking, though not absolute, constancy on the fifth day; second, there is apt to be a decided fall on the eighth or ninth day, with a quick subsequent rise of some days' duration, before true lysis begins. An analysis of my cases, with reference to the first of these points, appears in

TABLE VII.

Maximum reached on fourth day in 5 cases.	
Maximum reached on fifth day in 8 cases.	
Maximum reached on sixth day in 5 cases.	
Maximum reached on seventh day in 3 cases.	
Maximum reached on eighth day in 1 case.	

Thus in eighteen of twenty-two cases the fever reached its height on the fourth to the sixth day, and more often on the fifth than on any other one day.

With reference to the second point, my results do not correspond so closely to those of Irvine. In only six of my cases did the drop occur on either the eighth or ninth day; in some cases on the sixth; in more on the tenth or eleventh; in others no marked drop took place, but the fever terminated by an uninterrupted but gradual lysis.

Treatment. — As has been before indicated the treatment in the above cases was essentially expectant. In 30% no drug of any kind and no alcoholic stimulant was given at any time in the duration of the disease.

TABLE VIII.

	1886.	%	1887.	%	1888.	%	Total.	%
No medicine or stimulants,	9	23	14	31	15	33	38	29
Medicines, stimulants, or both,	30	77	31	69	30	67	91	71

Thus it will be seen that 29% of all the cases received neither drugs nor alcohol at any period of the disease. When it is too late to supply the deficiency I find that the analysis for the three years is not as complete as I could wish, with reference to the proportion of cases in which simulants alone, drugs alone, or the two in combination, were given. In 1888 33% had neither, 31% stimulants only, 35% both. The drugs most used were digitalis and cocaine for cardiac weakness —with the apparently prompt and marked effect of the latter in some cases I was much pleased; an opiate and the bromides for restlessness and insomnia; an astringent for excessive diarrhœa. In seven cases I gave a preliminary ten grains of calomel on entrance, followed by naphthalene, eighty grains daily, to see whether intestinal antisepsis could be secured; the disease aborted, or its course shortened. The number of cases is small, but the results were not such as to lead me to persevere. In two cases strangury resulted; and in one of these, hæmaturia. Two young men were admitted almost on the same day, with histories and symptoms clearly indicative of typhoid: one received the calomel and naphthalene, the other, owing to a misunderstanding, did not; both with equal promptitude aborted. My friend, Dr. G. L. Peabody, of New York, whose suggestion it was which led me to try this plan, tells me that his later experience has not justified the hope which his earlier experience encouraged. It has occurred to me that perhaps we can apply the principal of intestinal antisepsis with better results to the prevention of relapse, giving β. naphthol or some similar remedy, more or less of which passes unchanged through the canal. I propose to try this, and hope that some one with larger facilities than I am now likely to enjoy, may be willing to do the same.

The internal antipyretics I used a good deal in 1886, in primary attacks; scarcely at all in 1887 and 1888, only on the rarest occasions in relapses. I now give them only in the comparatively rare cases in which the fever in itself seems to interfere with the comfort of the patient. While we believed the continued range of such temperatures as we ordinarily encounter in typhoid to be productive of the nervous symptoms, as well as of the granular degeneration of the parenchymatous organs, particularly the heart, it seemed rational to adopt measures of one kind or another, the effect of which is to keep the temperature constantly within relatively safe limits. The knowledge which we have now, limited as it is, with regard to the formation and effects of the alkaloidal poisons produced in the living body, renders it, to say the least, highly probable that, in the influence of these compounds on the nervous centres, lies the cause of most of the grave symptoms and of the chief fatality of typhoid and some other processes. Whether we err here or not, that pyrexia is not the evil spirit we thought it to be, seems to be clearly shown, for instance, by Gläser's[9] analysis of 200 fatal cases of typhoid, out of 3000 treated in the Hamburg General Hospital. In only 8% of the fatal cases was the average temperature higher than that of the ordinary mild type of disease; and in none of the fatal cases were higher points reached than we all see in cases which terminate favorably. He shows, too, that in these Hamburg cases the duration of the fever was as innocent of the fatal result as its height. Here I can refer again to the reports of Strube and Fraentzel. The low temperatures which marked their cases has been already alluded to; but the following facts are also noteworthy: the symptoms in many were extremely severe, but these cases were, as a rule, of short duration, ending either in death or convalescence within two weeks. Fraentzel's mortality was 39% of 41 cases; Strube's was less, but reached 14.1% in the cases with a temperature of less than 102.2° F. while it was only 8.5% in those of higher range.

Brand and his followers, the most strenuous advocates of a method of treatment one effect of which is temperature reduction, while they bring ever stronger proofs of the beneficial effects of cold bathing, do not

[9] Deutsche Archiv. für Klin. Med. 1887, Bd. 41, p. 1.

now attribute these effects to the temperature reduction as much as to the stimulation of the nervous centres and the deeper respiration which tends to prevent pulmonary complications. Brand[10] says that the difference between his method and the antipyretic is that his is directed against the process as a whole, while the other is only against a symptom. "The process causes the danger, not the temperature." And here I may add that the conclusion is forcing itself upon me that we must come to the cold water treatment in this country. Expense and trouble are not offsets to human life in the minds either of the profession or the public. One cannot read the writings of Brand, Juergensen, Ziemssen,[11] and others in Germany; of Bouveret[12] and other members of the Lyons school in France; or of such expositions of their results as have recently been printed in this country by Wilson,[13] Wood,[14] and Baruch,[15] without seriously questioning whether we are doing our whole duty by our typhoid patients. Contrast the following figures:

Boston City Hospital,	1879-1888,	1846 cases,	mortality	13.98%
Mass. General Hospital,	"	969 "	"	17
Brand, cold bathing fairly strict,		5573 "	"	3.9
" " very "		1223 "	"	1

Not one of the twelve fatal cases in the last series came under treatment before the fifth day. These figures do not require further comment here.

The treatment in my cases was purely expectant, except that spongings with alcohol and water at a temperature of 60 – 70 F. was practised every two, three, four, six, eight hours, according to the degree of fever, 102.5 being generally considered an indication for the application. My mortality, 8.3%, is certainly not high; but the number of cases is relatively small, and a few bad ones would have raised the mortality materially.

AN UNCOMPLICATED CASE OF PROGRESSIVE OPHTHALMOPLEGIA EXTERNA, OR A SYMMETRICAL PARALYSIS OF THE EXTERNAL OCULAR MUSCLES.[1]

BY FREDERICK E. CHENEY, M.D.,
Assistant Surgeon to the Massachusetts Charitable Eye and Ear Infirmary, Ophthalmic Assistant to the Out-Patient Department of the Massachusetts General Hospital.

THE patient, whose case I have to report, is a boy, thirteen years of age, of English parentage and birth. He first came to the Massachusetts Charitable Eye and Ear Infirmary, in March of the present year, during the service of Dr. Sprague. Ptosis was the only trouble complained of; and it was, in fact, the only defect of the eyes that had been noticed by himself or his friends. He was admitted as a house-patient a few days later, for operation, by which it was hoped to correct, in a measure, the faulty position of the lids.

The mother states that the eyes appeared perfectly natural at birth, and continued so until some time during his third year, when it was noticed that the upper lids drooped slightly over the fronts of the eyes. This drooping of the lids became more noticeable as the boy grew older, and continued to slowly increase until his ninth year, since when there has been no appreciable change.

There is no history of convulsions, headache, or injury, and with the exception of the usual diseases of childhood, he has always been well and strong. In view of the fact that a specific history is not unfrequently obtained in cases of this disease, it may be well to mention that the boy was vaccinated in his second year, and that soon after this quite an extensive eruption made its appearance. This soon disappeared, however, and was not accompanied or followed by other symptoms that would suggest specific inoculation. The family history is good: The mother has never had any miscarriages, and has given birth to four other children, three of whom are living, and are said to be perfectly healthy.

Examination. — The patient is found to be well-developed physically, and is bright and intelligent.

The ptosis is practically complete, on both sides — though the left is perhaps a little more marked than the right — and he is only able to separate the lids by bringing into action the occipito-frontalis muscle. By the action of this muscle, and by tilting the head backward, the lower half of the right and about one-third of the left pupil are exposed, so that he has little or no difficulty in seeing. On raising the lids the left eye is found to diverge slightly, and when he attempts to follow the movement of the hand with the eyes, symmetrical deficiency of motion is found in every direction; upward motion is almost entirely lost, downward is quite limited, and, although the inward and outward movements are fairly good, the borders of the cornea cannot be carried to either the outer or inner canthus, as they can when the internal and external recti muscles possess their normal form.

The pupils are moderately small, and react readily to light as well as to accommodation. He reads the finest print (Sn 0.5) at a distance of eight centimetres, which shows that there is no want of accommodation power. Diplopia is not complained of, but when questioned, he says that he sometimes sees double while looking at near objects. On raising the lids and asking him to look carefully at a white card at a distance of eighteen feet, I find that he sees it double, and it is made more noticeable when a colored glass is placed before one eye. Although there is some astigmatism, the sight is nearly up to the normal for distance, and is made quite so by the use of correcting glasses. Nothing abnormal is found in the transparent media, or fundus of either eye, and the fields of vision are not contracted in any direction, either for form or color.

Dr. Walton kindly made an examination of the boy's general muscular condition, and writes me as follows in regard to it: "I find no trace of muscular disturbance elsewhere; there is no fibrillary twitching, no atrophy, no weakness. His muscular system is everywhere unusually well-developed; the leg muscles being large, but not unnaturally so. All movements of head, trunk and extremities are normal. He gets up from the floor without using his hands. The tendon reflex is normal. The grasp by the dynamometer measures twenty in the left to sixteen in the right, to which I attribute no special importance."

Dr. Walton also suggests that iodide of potassium should be tried before operating. In accordance with which suggestion, beginning with five grains t. i. d., it

[1] Read, by invitation, before the Boston Society for Medical Improvement, May 27, 1889.

[10] Deutsche Med. Wochenschrift, 1887.
[11] Klinische Vorträge, II. 1. Leipzig, 1887.
[12] Lyon Medical, June 22, 1888.
[13] Annual of the Universal Med. Sciences, 1887 and 1888.
[14] Therapeutics, its Principles and Practice, 1888.
[15] N. Y. Medical Record, Feb. 16, 1889.

was rapidly increased to twenty grains t. i. d., and this was continued for a month without any noticeable change in the condition of the ocular muscles.

This case is undoubtedly one of uncomplicated, progressive ophthalmoplegia externa, and can be classed as one of the rarer forms of ocular paralysis.

The disease as first described by von Graefe in 1868, is characterized by a progressive, and as a rule, symmetrical paralysis of all the external ocular muscles; the upper lids drooping; the eye-balls becoming more and more limited in their movements, and in the end becoming almost completely motionless.

The intra-ocular muscles, in the uncomplicated form of the disease, do not suffer; the pupils retain their normal size and reaction, and the power of accommodation is unimpaired.

In 1879 Jonathan Hutchinson brought the disease into greater prominence by reporting seventeen cases; three of these were uncomplicated, while the remaining fourteen were complicated with other nervous diseases. Since the publication of Hutchinson's paper the affection has attracted a good deal of attention, and there has been quite a number of cases reported, both uncomplicated and complicated. I find but four of the uncomplicated cases reported in this country; two by Birdsall, one by Mittendorf, and one — a congenital case — by Tilley.

The disease, as a rule, occurs in otherwise perfectly healthy individuals. The atrophic changes remain confined to the ocular muscles; and as the accommodation and vision are not interfered with, the only inconvenience the patient is apt to suffer is from the immobility of the eyes, which, of course, necessitates more frequent movement of the head, and in some cases from the high degree of ptosis which compels him to tilt the head backward, so that the pupils may be brought below the borders of the drooping lids.

A few cases have been reported in which other nervous lesions, chronic bulbar paralysis, locomotor ataxia, and progressive muscular atrophy, developed in the course of this disease; but it is certainly not usual for other muscles to become involved when the atrophic changes begin in the ocular muscles. Although the pathology of this disease has not definitely been determined by autopsy, it is considered by Förster, Mouthner, and other investigators, to be a degenerative process involving the motor nuclei of the ocular muscles, situated upon the floor of the fourth ventricle and aqueduct of Sylvius, and is thought to be identical with the change occurring in progressive bulbar paralysis, and the spinal form of progressive muscular atrophy.

The centres of the motor oculi nerves are, as a rule, the first to become affected, and the corresponding muscles of the two eyes, supplied by these nerves, are usually involved at about the same time and in an equal degree. Exceptions to this symmetrical failure of power are rarely observed. Mouthner, however, reports one case, in which the ptosis developed in the left eye twenty years before it made its appearance in the right, and neither were the other muscles of the eyes symmetrically affected. At the time of Mouthner's examination some of the muscles still retained their normal power.

The levator muscles of the lids, in the majority of cases, never entirely lose their power, even when the other muscles supplied by the third nerves are completely paralyzed.

The degree of ptosis is therefore variable; it being sometimes so slight that it is not noticed by the patient, and causes him no inconvenience. It is usually, however, of a moderate degree, and is sometimes complete.

Diplopia is not often present, but it is sometimes complained of where the disease progresses with moderate rapidity, that is in cases where the loss of power becomes almost complete within a few months. In the larger proportion of the cases recorded the progress is very slow, and diplopia is not mentioned as being present. The case which I have just reported seems to be exceptional in this respect, as, although double vision is not complained of, it is found to exist, and is made more noticeable when the pupils are completely exposed by raising the lids.

In regard to the sex and age of persons afflicted with this disease, it is much oftener met with in males than females, and in most of the cases reported, the trouble has come on before the thirtieth year. I find the reports of three congenital cases, and of three others, including the case just mentioned, in which the trouble was first noticed during the third year.

Lawford reports one case, in which the lids began to droop when the patient was about fifty years old, and I do not find any others recorded where the trouble began later than this.

In regard to cause: a history of previous syphilis is sometimes obtained, though not as frequently in these uncomplicated cases as in the cases seen in connection with other nervous diseases.

The trouble is also sometimes dated from an injury. In Lawford's case, there is a possibility that the disease was hereditary, as the patient's grandmother and two male cousins are said to have drooping lids.

The prognosis, as far as any marked improvement in the ocular condition is concerned, is not good. A moderate increase in the movement of the eyes is sometimes observed, after iodide of potassium has been taken in large doses for a month or more, and there may also be some improvement in the ptosis.

Mouthner reports one case, a child eleven years old, that entirely recovered in two months, with no treatment whatever. The trouble developed rapidly in this patient; there being a complete double ptosis, three months after the first symptoms were noticed; there was also a slight facial paralysis, so that it can hardly be classed as a typical case of this disease.

ARSENIC IN THE COURTS.[1]

BY F. A. HARRIS, M.D.,
Medical Examiner for Suffolk County.

INASMUCH as arsenic is one of the best known of the deadly poisons, and as it is also one of the most easily obtained, owing to its extensive domestic use in the form of what is popularly known as "Rough on Rats," and its more extensive use in agriculture in the form of Paris green, it is not strange that by far the largest number of suicides by poison should owe their success to the ingestion of this particular one.

As white arsenic and Fowler's solution are practically free from taste or odor, and are readily administered in food or drink without liability to attract the attention of the victim at the time, it is not surprising

[1] Read by title before the Massachusetts Medico-Legal Society, October 3, 1888.

that this drug has been a favorite with those contemplating secret murder.

That its use for this purpose is constantly diminishing is wholly due to the gradually-increasing knowledge on the part of the general public that it is one of the homicidal drugs most certain of detection; and as modern chemistry has succeeded in removing much if not all of the mists and fogs which surrounded trials in past generations, the risk in the use of this poison has become so great that trials for murder with arsenic are becoming rarer year by year.

Yet, from time to time such cases do occur; and when they do, although the management of the trial must be wholly in the hands of the gentlemen of the legal profession, still they must rely largely upon the advice and assistance of the doctor. It is true, even if he be a medical examiner, his position is that of a witness only to tell what facts he knows, and such opinions as he can fortify; but he must also assist in clearing away any doubts which counsel eager in the defence of their client may seek to arouse in the minds of the jury while confining his own evidence within strict lines of impartial demonstration of scientific fact. The chain of proof in a trial for murder by arsenic will naturally include —

(1) The death and the cause of the death, namely, that it was arsenic in some form, and from nothing else; or, if from something else, directly, how far the arsenical poisoning was contributory thereto.

(2) That such death was the result of homicide, and not of suicide or accident.

(3) That the accused was the person who administered the drug, — this question involving motive, opportunity to administer, possession of the drug anterior to the crime, and other matters still more closely within the province of the lawyer.

It is with the first part of this chain of proof with which the doctor, and especially the medical examiner, has to do, and with the second part only to a limited extent. As in ordinary warfare inventions for defence have closely followed inventions for greater destruction, so in the legal warfare of murder trials, the skill of defence has been assisted by experience and the knowledge of increased means of medical proof, and to-day the closest attention to detail is necessary on the part of the physician. Formerly it would have answered every purpose to have demonstrated the presence of arsenic within the stomach. To-day such proof would be insufficient, as the presence of unabsorbed arsenic is consistent with a continuance with life. To-day the medical evidence must demonstrate not only the presence of the drug, but also, generally, that the drug has been absorbed, and also the method by which it has destroyed life, whether by the violent inflammation of the stomach and intestines coupled with the exhaustion of the violent vomiting and purging, or whether, at a later period, by the destructive effect of the absorbed drug upon the other viscera, notably the liver and kidneys, by producing fatty degeneration. A chemical examination of the vomitus and the urine voided, while of assistance in a capital trial, has not the importance that it would have in a trial for attempted murder where the victim survived, inasmuch as in such cases the proof of rejected and eliminated arsenic, combined with the history of the symptoms, would be the only proof of arsenic ingested or absorbed. But where death has occurred the pathological changes are so marked that it is not difficult to demonstrate that an irritant poison has been at work, and the chemist is able to demonstrate what that irritant was.

The medical witness must be prepared to demonstrate clearly the pathological changes. No jury would be warranted in finding a verdict of guilty in a case where, although chemistry might show a small amount of arsenic in the system, there was still no evidence that such arsenic had produced any deleterious effects upon the organism. This is of especial importance when the liability to error in attributing minute amounts of arsenic after Marsh's test to the presence of such drug in the body at time of death is considered. A still graver error is liable to result unless the utmost accuracy is observed in weighing the amount of organs delivered to the chemist, and also the amount retained for examination in case of accident to the first portions; for an error of little moment of itself, when multiplied for the purpose of forming an estimate of the whole amount in the body, would have a possible fatal effect on the life of the accused.

This was notably exemplified in the *cause célèbre* at New Haven, where two young men were put on trial for the murder by arsenic of one Jennie Cramer. Here, though *a priori*, from the place where the body was found, and from all the pathological conditions, the case was one clearly of death from drowning, as was later demonstrated to the satisfaction of the jury, the Government endeavored to establish the theory of homicidal arsenic poisoning.

In the report of the post-mortem examination there was absolutely no proof of any deleterious effects of the drug upon the organism; on the contrary, the condition of stomach and bowels showed the absence of either vomiting or purging, and no fatty degeneration of any organs, and no inflammatory action in the stomach. The chemist who analyzed portions of the organs and of the muscles, found, by Marsh's test, minute quantities of arsenic.

It is, of course, a question if there was any arsenic in the body during life; but when it was put in evidence that he had *about* one-half of the liver and *about* so much of other organs, and the minute fractions of a grain of arsenic in these *abouts* were multiplied, as if they were exact amounts, by the weight of the body, to produce an estimate of a little less than two grains in the whole body, a very dangerous plan was adopted, when human life was at stake.

This, however, belongs rather to the province of the chemical expert than the pathologist. It ought not to be a matter of great difficulty to demonstrate the changes produced by an irritant poison, and to undergo the ordeal of a cross-examination, when the poison has been the sole cause of death. When disease is present, or organic changes in various organs, it may not be so easy to make clear to a jury just how much the arsenic had to do with the death, especially if the quantity is small, and the exhaustion from the irritant action is the chief factor. Each case must be considered and treated of itself; and that evidence will have the greatest weight with the jury which does not claim too much, or assume infallibility. The present state of medical expert testimony in the courts would undoubtedly ensure a number of witnesses to controvert any extreme position, no matter how fully convinced the examining physician might be of the soundness of his theories.

In all trials where the results of chemical analysis show only a small amount of arsenic, the theory of accidental admixture after death will be urged, especially in those long buried. To-day not much weight, if any at all, is given to claims that the body absorbed arsenic from the soil in which it lay. The physician who makes the autopsy has only to demonstrate the caution he observed to prevent admixture from anything on his table or instruments, or the use of unclean dishes or jars, and leave to the chemist the demonstration of the impossibility of any artificial accidental admixture while the organs were in his charge. One thing is absolutely conclusive. No pathological change can occur after death. If the pathological changes of arsenic poisoning are to be observed in the body, it is entirely clear that the arsenic was ingested during life.

Most of the embalming fluids, so-called, contain arsenic; and it is often the case that the body has been injected before the cause of death is suspected. This need give the medical examiner no trouble; for the utter worthlessness of any pathological or chemical examination, as far as the demonstration of arsenic poisoning is concerned, is so clear that no prosecuting officer would proceed at all in the case, if the result depended on such examination. There were some such cases involved in the late trial of Mrs. Robinson; but they were not regarded as factors, either by the lawyers or physicians.

The question of accident, suicide, or homicide, is one to be determined by collateral evidence, and really to be decided by the jury. The form in which the drug was ingested, the quantity and time and place, social surroundings and mental conditions, may all have weight in arriving at a just conclusion; and the physician can be rather of service to counsel before trial in aiding him to a proper theory, than in actual testimony upon the stand.

The other questions occurring in arsenic trials are wholly within the domain of law, and so not within the scope of a paper before this Society.

REPORT ON RECENT PROGRESS IN SURGERY.

BY H. L. BURRELL, M.D., AND H. W. CUSHING, M.D.

TETANUS.

VON EISELSBERG,[1] in Vienna, has had an opportunity to investigate six cases of tetanus clinically and experimentally. Four ended fatally. In four cases fragments of skin, wound secretion, and blood were investigated, and used for inoculation experiments. In two cases splinters were removed from the wounds. In four of the cases the wound had been fouled with earth, when received. V. Eiselsberg's results corresponds with those of most other writers, except that he did not succeed in finding tetanus bacilli in the blood. Inoculation of animals with wound secretion, particles of skin, and wood splinters removed from patients subsequently affected with tetanus, were successful. In one instance tetanus followed inoculation with fragments of such a wood splinter which had been removed from a fatal case of tetanus two and one-fourth years before. With reference to prophylaxis, v. Eiselsberg recommends that even the smallest wounds which have been inoculated with particles of earth or foreign bodies should be most carefully disinfected, and all foreign substances removed at once; that all bandage material — soiled dressings, etc., that have been in contact with a tetanus patient — should be burned; that such patients should be isolated; and that an especial set of instruments and apparatus should be used for their treatment.

Of interest in this connection are the investigations of Dr. Joh. Raum, in Warsaw,[2] who has made a series of experiments by inoculating rabbits with earth. Earth from Göttingen which had been carefully shut up in a closed glass vessel for three and one half years, as well as earth from different parts of Warsaw, produced tetanus after an incubation period of from two and one-half to four days. An investigation of the cream-like mass at the point of inoculation invariably demonstrated the presence of the "Nikolaier bacillus."

Wiedermann,[3] of Stuttgart, was successful in his inoculation experiments with fragments of a splinter of wood taken from a fatal case of tetanus, and with the pus from the same patient although he did not find the bacilli in the latter.

Guelpa,[4] also, after an extended investigation, has confirmed the statements already made by Nikolair, Rosenbach, Brieger, and others. He concludes that tetanus is an infectious disease; that it is not, contrary to the opinion of Verneuil, a disease of equine origin, notwithstanding horses show the greatest susceptibility to it; that the tetanic symptoms are the result of the "toxine" produced by the bacilli, which increase in number during the first outbreak of symptoms only at the seat of inoculation. In general, the dissemination of the bacilli throughout the body is rare, and only occurs, if at all, in the later stages of the disease. That the indications for treatment are: (1) the extermination of the bacillus colony by active surgical procedure; (2) the elimination of the "toxine" from the system by cathartics, diuretics and diaphoretics; (3) to prevent the excitation of the nervous system by large doses of chloral.

OPERATIVE TREATMENT OF HERNIA OF THE BRAIN AND SPINAL CORD.

Hildebrand[5] reports three cases of operative interference in Koenig's klinic, in cases where congenital defects existed in the cranial vault, with protrusion of its contents. One was a meningocele-cerebratis; another, an encephalocele, the sac containing fluid and brain tissue; the third, a meningo-cephalocele. All ended fatally. Also five cases of spina bifida, with three deaths from suppuration and meningitis, or unknown causes. Hildebrand recommends the following rules in operating:

In all cases of cerebral and spinal herniæ, when the contents of the sac are fluid, incise, evacuate its contents and remove it. If the contents be brain substance, it should be reduced, if possible, and held so with a truss. If irreducible, the contents should be excised. Ligation of the sac base, without opening it, is only to be done with meningoceles containing only small amounts of cerebrum. Escape of cerebro-spinal fluid is avoided by immediate introduction of the finger through the incision in the sac, and occlusion with its tip of the communication between it and the interior

[1] Wien. Klin. Wchnschr., 1888, i, 10-13.

[2] Ztschr. f. Hyg., 1889, v. iii, p. 509.
[3] Ztschr. f. Hyg., 1889, v. iii, p. 522.
[4] Bull. de Ther., 1888, lviii, p. 508.
[5] Ztschr. f. Chir., 1888; Bd. xxviii, heft, 45.

of the skull. An elevated position of the seat of operation and narcosis are considered advantageous. The Schatz-Rizzoli methods are condemned.

THE REGENERATION OF BRAIN TISSUE AFTER TRAUMATIC LESIONS.

Coën and others have denied that a genuine regeneration of the cerebral tissue occurs, and claim that the newly-formed tissue contains no new nervous elements. In experiments during the past twelve months,[6] wedges of brain substance were excised from dogs, rabbits, and guinea pigs, or portions grafted from one hemisphere into the opposite one. Union generally occurred so perfect as to necessitate a careful microscopic examination to locate its site. A most complete regeneration of the cerebral tissue took place, the proliferation process at times being so active that the newly-formed tissue even rose above the level of the adjacent surface. Likewise an early and thorough union of the grafts with the adjacent surfaces occurred, except in those cases where a rather profuse bleeding occurred during the transplantation.

AFTER-TREATMENT OF TRACHEOTOMY.

Prof. C. Langenbuch,[7] Berlin, has tamponed the trachæ after trachotomy, on account of diphtheria, since 1882. For this purpose the low operation is performed, in order that the tampon can be introduced without interfering with the vocal cords. The tampon consists of small pieces of cotton soaked in an iodoform-ether solution. He claims that the percentage of recoveries has been raised from 22.4 to 36 per cent. The benefit of this method is especially marked in cases of tracheotomy in children under two and one-half years of age. His conclusions are based on the examination of 1192 cases, 593 of which have been treated in this way.

FURTHER IMPROVEMENTS IN THE TREATMENT OF MALIGNANT STRICTURE OF THE ŒSOPHAGUS.

C. J. Symonds[8] contributes an interesting account of his experience in "tubage" of œsophageal strictures. His detailed account of his cases is instructive, and is suggestive of further benefits to be gained in the treatment of this hopeless affection. The subject he sums up as follows:

The short tube I have now used in twenty-two cases; of these, seventeen have died under observation, five of which have been already published, while notes of the remaining twelve are given above. Two cases were submitted to treatment for a short time only, and left the hospital relieved, but without tubes, and three are at present under treatment. Of the fatal cases, nine died with the tube in position, swallowing to the last: four were able to swallow without a tube for some time before death; in one a long rubber tube was substituted and worn in comfort for four months and a half. In one other, a long rubber tube was used for three weeks after eleven months of the short tube. In two the long tube of Krishaber was used after cough on deglutition ensued, and gave rise to much distress from ulcerations of the mucous membrone over the cricoid. The majority, therefore, wore the short tube up to the time of death, or were able to swallow owing to the dilatation effected. It will be seen that the patients lived variable times after treatment began, depending upon the duration beforehand and on the form of the disease. The longest periods were six, seven, eight, and eleven months. If it be granted, from the evidence of the results of post-mortem examinations and of the patient's sensations, that this form of tubage does not hasten the growth of the disease, then it seems quite clear that the patients are more comfortable than after gastrostomy; they die from the unimpeded and unhastened progress of the disease. The majority of the cases of gastrostomy succumb, probably not more than one in five recovering. Only once has an accident occurred to me or to my dressers in an experience now of twenty-two cases, and this was not due to any injury inflicted on the stricture, but to a perforation of the pharynx high up. Besides these twenty-two cases, all under prolonged treatment and under various hands, we have treated quite ten other cases by bougies without accident. It may be said, therefore, that there is no danger in passing bougies; a great deal too much stress has been laid upon this point of danger. I have passed tubes and bougies in all conditions, and so have my dressers, without, so far, any accident, save the one mentioned, and that occurred to myself, and might have been avoided, and now, with the new introducer, certainly will be in future. The improvement in the patients is remarkable: one man, as stated, gained nineteen pounds in ten days, but he was nearly dead before treatment; while others have gained flesh less markedly, all have been benefited. The delight of a man at being able to swallow again is well worth seeing. It seems almost a miracle to him. We last saw under treatment a postman who came unable to swallow. He was admitted for one night and treated as described above. A No. 7 was passed, and he returned to his duties daily. During Christmas week he was swallowing freely, and a longer tube had been passed. From a perusal of this case it will be seen that all were able to move about, and some to follow their usual occupation; when this is not laborious it may be carried on till the strength be reduced by the progress of the disease.

In conclusion, I would claim for this method of treatment — that it is applicable to nearly every case of malignant stricture, and probably to all if seen early enough; that it affords the patient far more comfort than the long feeding tube; that it is superior to gastrostomy in the comfort it secures and in the freedom from danger; that life is prolonged in every case, and as long as after the most successful gastrostomy; that the tube does not give rise to any irritation, being tolerated by the most irritable patient; that, instead of favoring growth, it checks it, by allowing unhealthy fluids to pass from the œsophagus into the stomach; that the use of the short tube — and, when cough on deglutition arises, of the soft rubber tube — will enable us to treat all cases without resorting to gastrostomy.

ON THE TREATMENT OF SO-CALLED PERITYPHLITIC ABSCESS.

R. F. Weir[9] has contributed an excellent paper on the above subject, based on the observation of one hundred post-mortem examinations, and from thirty-two personal operations for so-called perityphlitic abscesses, his conclusions are as follows:

(1) That all such abscesses originate in the peritoneal

[6] Prus. Wiadomosci Lekarskie, 1888, August, and Annals of Surgery, 1889, vol. ix, p. 225.
[7] Berlin Klin. Wchnschr., 1888, xxv, 44.
[8] Lancet, March 30 and April 6, 1889.
[9] Medical News, April 27, 1889.

cavity, and there develop to an appreciable size before invading extra-peritoneal tissues or viscera.

(2) That as stercoral accumulations or cæcal perforations are so rarely met with as causes of perityphlitic tumor or abscess, they should not be considered from a clinical view in any given case.

(3) That in an attack of perityphlitis originating, as it generally does, as a perforation, or as a gangrenous condition of the appendix vermiformis, all use of purgatives or enemata is in the beginning of a case to be avoided, and the immobilization of the patient is to be insisted on, and aided, if necessary, by anodynes.

(4) That if a tumor be found, it be opened by a lateral incision as soon as symptoms, constitutional or local, indicate the formation of pus.

(5) That if symptoms indicating an increase of the local peritonitis, such as the persistence of vomiting, spreading pain, abdominal resistance, and temperature elevation, continue with or without the formation of tumor, for a period of forty-eight hours, the danger of the disease is greater than the proposed lateral or median laparotomy, which should then be immediately resorted to. In many instances even a less time should be afforded the consideration of the disease before operating.

(6) If a general peritonitis be suspected, corroboration can often be obtained by abdominal aspiration with a fine needle employed in places other than in the right iliac fossa, and particularly by a deep, hypogastric puncture into the pelvis, the bladder being first emptied. However, if left in doubt, it is better to operate.

(7) (*Sub judice*). That if general suppurative peritonitis be found at a laparotomy, lateral or median, avoid too much handling of the intestines, and trust to either temporary irrigation with large glass tubes, (Tait's,) or, more rationally, to permanent or repeated irrigation and fluid distention of the abdominal cavity, as advocated by Greig Smith and by Penrose.

(8) (*Sub judice*) To meet the obstruction symptoms due to septic paralysis of the bowels, which often persists after a laparotomy for suppurative peritonitis, saline purgatives and repeated washing out of the stomach should be resorted to, even though vomiting be present to a marked degree. Enterotomy may also, in exceptional cases, be entertained.

CATGUT RINGS AS A SUBSTITUTE FOR BONE PLATES IN LATERAL ANASTOMOSIS OF THE INTESTINES.

Jessett and Horsley [10] have contributed an experience in experimentation in the forming of lateral anastomosis that clearly demonstrates its value. They reprint a large number of experiments, and give the results as follows: The operation, as at present practised by the Czerny-Lembert suture, gives a mortality of 86.6% as against 24.99% of enterorrhaphy by Senn's invagination method, and only 7.69% by the method of approximation plates. The time required by the Czerny-Lembert method, which necessitates fifty to sixty sutures, was an hour and a half; the method by Senn's plates required only twenty minutes, and needed but four to six sutures.

Abbe [11] has suggested the use of catgut rings instead of bone plates in the establishment of lateral anastomosis. The rings are made as follows:

"A moderately heavy catgut is chosen, taken from alcohol and juniper oil; it is wound loosely on a test-tube, and soaked in hot water. It soon kinks up, and, were it not on a tube, could hardly be unravelled. After a while it is straightened out, allowed to untwist, wound again loosely, and soaked in hot water once more, until it ceases to twist. It is then ready to make up into rings which will lie perfectly flat. Eight or ten turns over two pins, stuck in a cork two inches apart, will make a bundle somewhat smaller than a lead pencil. These may be tied at four places with fine silk, to secure the strands parallel while being wound round like a cable, with a continuous piece of the same catgut. The end of the piece is secured by threading it into a Hagedorn needle, and transfixing the whole bundle obliquely with it at the place of finishing. Thus there are no knots, and it is difficult to find the point of beginning.

"The ring is now a long oval, with an inside diammeter of two inches, and in thickness smaller than a a pencil. Six strong but small braided silk threads are now fixed to each ring, equidistant, on the face looking toward the other ring which is to be laid against it. No knots are used. A needle pierces the ring between the strands, carrying the thread, which is drawn through all but eight inches, and wound once and a half round, sinking between the encircling catgut, piercing the ring again, and cut off. The rings, which have now been water-soaked, are ready for use, if needed for emergency; but, if possible, they should be kept a while in alcohol, under pressure between two glass slides, the threads being curled up within the oval, and the sides being pressed together after the glasses are tightly tied together. The ring thus becomes a long oval with parallel sides, and soon becomes harder and flattened on its faces. Moreover, it shrinks a trifle in alcohol, to swell again in the intestine and give additional security.

"In using the rings, I find it saves time to have each thread have its own needle. The intestine is pierced from within outward less than a quarter of an inch from its cut edge. The ring should be laid on a damp folded towel, with threads in order and needles stuck in the towel, which is held by the assistant close to the bowel, while the operator quickly pulls the thread through and passes the ring into the interior of the bowel. When the threads are tied and cut off, the apposition is perfect, but by a quickly made running suture outside all, a half inch of peritoneal surface is at once secured beyond the possibility of a leakage. More than this is superfluous, for the edges held between the rings act as valves.

"In invaginating the end of the cut intestine after exsection, one will delay a long while if he tries to turn in first one and then the other edge, and will also find the mesentery try to turn in after it on the attached side. My rule is to trim back the mesentery at least a half inch from the end. Then seizing both lips with toothed forceps, plunge them directly into the lumen. The entire edge usually follows, and one holds them by the left index finger and thumb while a quick running overhand suture of the slit thus formed is made."

COLECTOMY FOR MALIGNANT DISEASE.

Kendal Franks [12] reported two cases of malignant disease in which operative proceedures were undertaken. A statistical table, which accompanied the

[10] Lancet, March 16, 1889.
[11] Medical News, June 1, 1889.
[12] Lancet, March 2, 1889.

paper, gave details of the fifty-one cases hitherto published, including the operation and date, the seat of the disease, the length of gut removed, the treatment of the resected intestine, the situation and length of the wound in the abdominal wall, the result, and the reference to publication. From this list it appeared that the first operation was done by Reybard, in 1843, and was successful, the patient living for a year afterwards; and the list included cases by Messrs. Bryant, Marshall, Treves, Sydney Jones, Whitehead, and Pitts, in this country.

From a consideration of the cases, which numbered fifty-one, it appeared that the operation had proved fatal in 40.8 per cent. In twenty of those which survived operation the disease returned in ten, and in the remainder the period which had elapsed was too short to draw conclusions from. One case was alive four years after operation. The author drew the following conclusions: — (1) Colectomy rarely effected a cure. (2) As a palliative measure it was justifiable, and frequently demanded. (3) Recurrence usually took place in the liver or mesenteric glands, and death then was much easier than when the intestine was occluded. (4) The mortality after immediate suture of the intestine and after the formation of an artificial anus, was nearly equal. (5) Immediate suture of the divided ends was preferable to the formation of an artificial anus. (6) The death-rate had been reduced in the latter cases, and a further reduction might be anticipated.

(To be continued.)

Clinical Department.

TETANY TREATED SUCCESSFULLY WITH URETHAN.[1]

BY DR. S. L. ABBOT.

A SEVERE case of tetany was under my care in the Massachusetts General Hospital, two years since, which yielded promptly to treatment with urethan.

The patient was a robust "'longshoreman," forty-three years old, accustomed to hard work. With the exception of an attack of typhoid fever five years before, he had been a uniformly healthy man. His habits were temperate. Six weeks before entrance he had been attacked, without any known cause, with severe cramps, which came on at first in the early morning, affecting primarily his legs. The spasms steadily increased in severity, affecting in time all the flexors of the extremities, the abdominal muscles in part, the outer muscles of the thighs, and those about the shoulders. They increased in frequency, so that on some days they occurred every half hour, and were easily excited by any muscular effort. Even crossing a foot over the knee of the other leg for the purpose of tying his shoe, would bring on a cramp of the flexed leg, extending up to the abdomen and involving the abdominal muscles of that side. For a few days before admission to the hospital he had suffered from darting pains here and there in the back of the neck, the chest and legs. He thought the attacks were somewhat relieved by micturition.

At the time of entrance the patient complained of pain down the outside of the left thigh, extending from a point near the left sacro-iliac synchondrosis, where he was very sensitive on pressure.

There was no apparent loss of strength. General sensation was normal, and the special senses were not affected. There was no headache. The appetite was poor, and the bowels were regular. Micturition was somewhat frequent, but nothing abnormal was detected in the urine, which was normal in color but of low specific gravity, 1005.

During his first night in the hospital the patient had one attack of cramps.

When first seen by me on the following morning, having in mind the very prompt effect which I had obtained in checking the spasms in a violent case of chorea by the administration of urethan,[2] I determined to try it in the present instance. Ten grains were prescribed to be given every two hours by day, the dose to be increased to fifteen grains at bedtime. Diet, six ounces of milk every two hours.

The patient had one or two attacks of cramps during the day, one of which was seen by my assistant, Dr. Jacobs. There was no general convulsion nor loss of consciousness, but there was a tonic contraction of the legs and left arm lasting about half a minute. The patient slept well most of the following night, having two or three slight cramps with little pain. On the following morning the general pains complained of on entrance had entirely disappeared. The tongue was covered by a thick moist coat.

On the next day the patient reported no cramps for twenty-four hours, and he was feeling generally much easier. Diet: soup, broth, milk, bread. Urethan to be continued.

Two days after the patient had had no more cramps, but he complained of some pain in the course of the sciatic nerve in the left thigh. This was less the next day and there was no return of cramps. On the ninth day after the treatment was commenced the patient was on full diet, sat up all day free from pain, and there had been no cramps since the second night after entrance. The urethan was omitted on the following day, and on the next he was discharged well. The temperature on entrance was 101.4°, and normal every day after. Pulse 100 on entrance, and ranged from 50 to 60 up to the last day, when it was 98.

It should be mentioned that previous to entering the hospital the patient had tried rest from work for a week without any relief to the cramps. Nine months after leaving the institution he was heard from, and reported that he had continued in perfect health.

[1] Read before the Boston Society for Medical Improvement, May 27, 1889.

PARTIAL PLACENTA PRÆVIA IN AN EIGHTEENTH PREGNANCY.

BY A. J. ABBE, A.M., M.D., OF FALL RIVER.

MRS. O., a native of England, forty years of age, was seven months advanced in her eighteenth pregnancy, when, on May 24th, she was suddenly seized with hæmorrhage from the uterus. Upon my arrival I found her not flowing, but a vessel contained about two quarts of blood. On examination the baggy feeling over and behind the slightly dilated os confirmed the diagnosis of placenta prævia. Rest was prescribed, and the probability of the necessity for induced labor was explained.

[2] Boston Medical and Surgical Journal, vol. cxiv, p. 419.

Five days later she had another hæmorrhage a little less in amount. I did not see her. A week later she had a third, and fainted. I advised immediate delivery, but was unable to obtain the consent of any member of the family, or even permission for a consultation. Impressing upon them the danger of delay, and leaving the responsibility with them, I departed. At intervals of five to fourteen days she had four more hæmorrhages. General malaise was marked throughout; "fainting spells" were frequent.

On July 5th, labor pains continued for several hours, the os becoming the size of a silver quarter, with but slight hæmorrhage. She was now willing to have anything done, but it was my turn to delay a little. Pains ceased until July 20th, when contraction again occurred for three hours, and then ceased for eight hours; when, upon my arrival, I found the os two-thirds dilated, head presenting. Drawing four ounces of residual urine, I dilated manually for a few moments, and ruptured the membranes; when contractions recurred and completed the dilation in thirty minutes (O L. A). Second stage lasted fifteen minutes; third stage, fifteen minutes. The placenta presented upon the lower edge of its maternal aspect an elliptical surface, three by one and three-quarters inches, which was smooth, and glazed with a membrane similar in all respects to the amnion. One drachm of ergot was given. Very little flowing. Mother and boy both well.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

F. B. HARRINGTON, M.D., SECRETARY.

MEETING of May 27, 1889. DR. W. L. RICHARDSON, President, in the chair.

A CASE OF TETANY

was shown by DR. F. C. SHATTUCK.

A characteristic spasm was excited in the right arm and hand by pressure applied below the clavicle, and prompt relaxation was induced by the application of the constant current, — the negative pole on the sternum, the positive on the extensor surface of the arm and wrist. The patient was a well-developed, vigorous girl of twenty-one, who underwent a very severe attack of diphtheria, followed by paralysis of the fauces and right leg, five years ago. After recovery, she began to experience occasional cramps in the right hand, without prodromata or apparent exciting cause. The spasms were, at first, confined to the right hand and arm, lasted only one or two minutes, and were separated by considerable intervals. Gradually they have involved the other upper and lower limbs; sometimes now last an hour, and are much more frequent. Several days ago, in the midst of an attack, she sought advice at the Massachusetts General Hospital, and was admitted to the ward, the attack being promptly recognized by Mr. Chadbourne, the medical house officer. The Trousseau phenomenon is well marked, it being easy to bring on spasm in either or both arms by pressure in the axillary or clavicular regions. She has had two attacks in the left leg since entrance, but pressure on the nervous and vascular trunks of the legs has failed to invoke spasm. The case is thoroughly typical of a somewhat mild form of the disease, except that the peculiar change of electro-muscular contractility, first described in connection with this disease by Erb, is not present, negative closure producing contraction when the current is applied to the nerve before positive closure, in this case, as in normal conditions.

The only disease to be eliminated in the diagnosis of this case is hysteria, and that can be easily excluded by the intermittent and bilateral features of the spasms, and by the total absence of any other hysterieal manifestation. In a case I reported[1] several years ago, the only other I have seen, the patient was a young man, and the spasms began and were very marked in the masseters, but were also severe in the trunk and limbs alike. The possibility of tetanus had consequently to be considered. The prompt relief which is brought in this case by the local application of electricity — both currents seem to act equally well — is noteworthy, and is not mentioned in any work on the subject which I have thus far consulted. My other case was cured by bromide and chloral. I propose to give this patient the former alone.

DR. F. C. SHATTUCK also showed

TWO RENAL CALCULI

voided by a hospital patient under the following circumstances. A woman of middle age was admitted, and a diagnosis of debility was reached after careful and thorough examination. She was doing well until a week ago, when she complained of moderate dysuria, for which no explanation was found in the urine. A few days later she passed two facetted stones, one as large as the terminal phalanx of a woman's little finger, and, immediately afterwards, urine perfectly loaded with pus. The next urines were clearer; and thirty-six hours after the stones came away the renal secretion was again perfetly normal. After the passage physical examination of the lumbar regions was as barren of results as before; and the lax and thin abdominal wall permitted thorough palpation. In the hope that we might ascertain which ureter was traversed by the calculi, DR. O. K. NEWELL was so kind this morning as to make an endoscopic examination. He reports that he saw both orifices, and that the left ureter seemed somewhat dilated.

DR. S. L. ABBOT reported

A CASE OF TETANY TREATED SUCCESSFULLY WITH URETHAN.[2]

DR. F. C. SHATTUCK read

SOME REMARKS ON TYPHOID FEVER, WITH AN ANALYSIS OF ONE HUNDRED AND TWENTY-NINE CASES TREATED IN HOSPITALS, AND SPECIAL REFERENCE TO RELAPSE.[3]

DR. GEORGE B. SHATTUCK thought the position taken by the reader with regard to relapse was a sound one. These views accorded with those adopted by most recent authorities upon typhoid fever, and would probably be found to be in accord with the experience of practitioners having extensive opportunity for observation. The fact that relapse was independent of indiscretions in diet was incontestable, and abundant proofs were to be found in any large hospital service, having numerous cases of typhoid fever, by any one

[1] Journal, 1887, i, p. 497.
[2] See page 230 of the Journal.
[3] See page 221 of the Journal.

who chose to look for them. It was certainly very desirable that this fact should be thoroughly understood by the profession; he thought it questionable, however, whether it was equally desirable that it should be dwelt upon with the laity. There were real dangers and drawbacks attendant upon early indiscretions in diet after typhoid, and it was difficult enough under any circumstances to restrain the greediness of the half-starved fever convalescent.

The trouble with Brand's statistics is that they are too good. A moderate experience with his method has not induced its adoption outside of Germany and Lyons. A proper application of the method demands plunging the patients in cold water from the very beginning of a febrile process, subsequently called typhoid fever, every time the temperature reaches a certain point. If the claim now made is, that the object of this constant disturbance of the patient is simply the stimulation of the nervous centres, Dr. Shattuck had sufficient confidence in the ingenuity of physiologists and the resources of therapeutics to suggest methods of stimulation as effective as the cold bath, and more agreeable, and at the same time less cumbrous, less disturbing, and less costly in our country, both for patients and attendants.

DR. F. C. SHATTUCK said, in reply, that until lately he has been disposed to take somewhat the same view of Brand's statistics, namely, that they are too good; but the evidence of other Germans, and especially of the French who are not prejudiced in favor of German ideas, is too strong to be disregarded. A more or less thorough Brand treatment has now been carried out in Lyons for fifteen years, with the best results, and the method seems to be winning its way in the French army hospitals.

DR. ABBOT said: It was very difficult to explain the cause of relapse in typhoid fever, or of the sudden rise of temperature which sometimes occurs in its course. It was certain that a very critical condition, such as unhealed ulcers in the intestines, might exist during apparent convalescence which gave no outward sign. He mentioned the case of a young man affected with typhoid, under his observation some years since. He had been left in his charge by the late Dr. Cabot, during a temporary absence from the city, and became apparently convalescent. He was so well that he was able to be up all day, and made no complaint. On Dr. Cabot's return home he resumed charge of the case. At his last visit Dr. Abbot gave the patient very strict directions about his diet, cautioning him against indiscretion, and assuring him that he was not yet out of danger of accidents, and he promised to be guided by his advice. On the next day, however, without consulting his physician, he ate a raw apple, which killed him. Severe abdominal symptoms at once came on, which ended in perforation of the bowel, peritonitis and death.

DR. WHITTIER said: It is very evident, Mr. Chairman, that not much other than words of commendation can be said of Professor Shattuck's paper and the subject it places before us for discussion. He has not left much to be said on this most important and timely topic of cold bath treatment of fever, and particularly of typhoid fever.

The figures and the conclusions set forth in the paper present to us incontestable evidence of the need of a change from our long-practiced method of dealing with high temperatures, for figures like these are facts, and conclusions such as are here drawn are safe guides for treatment. It is only recently that it has been conceded by any considerable number of practical, every-day practitioners, that the underlying principle in the cold-bath treatment of fevers is more and better than the abstraction of heat already generated in the tissues, and that, after all, the influence on the nervous system, stimulating to new effort and imparting new power, is the chief effect of cold applied to the surface of the body; and the number of converts to this recently established view is constantly increasing, and in my opinion must continue to grow as men become better informed. We all recognize the obstacles to putting in practice the cold-bath treatment of fevers; large obstacles to the proper adjustment of the mechanical appliances. For instance, the bath should be at the bedside of the patient — an extremely difficult thing to arrange in private practice; we note the need of larger attendance and attention, for the patient must be lifted and not allowed to make any effort whatever; and yet larger difficulties in overcoming popular prejudice against so great an innovation, so radical a departure from previous and well-established methods. But our duty in the matter is none the less clear and positive, and it rests with the profession to insist upon and to carry out the changes in treatment advised and urged by Professor Shattuck.

DR. J. P. REYNOLDS: Many instances of genuine typhoid cases, in which the typical course of the disease and its distinctive features are well marked, will, provided they occur in private practice, and therefore come early under judicious control, recover safely without other management than utter rest of mind and body, the securing of sleep, the simplest form of nourishment, a free use of diluents, and the very slightest medication. With this in mind, would any physician subject an average case of typhoid under his own roof to the continuous application of cold water?

Several speakers have referred to the habit of accrediting relapses to errors in diet. Were that fact generally kept in mind, upon which Liebermeister, in "Ziemssen" so justly lays stress, that no matter what improvement appears in pulse, in temperature, or in general condition, the risks of typhoid are continually present in every genuine attack for not less than thirty days; that at least until that time has passed the attendant must unshrinkingly exact entire tranquility of body and mind, relapses would be seldom if ever known. Errors in diet, rightfully interpreted, mean almost unfailingly, criminal disregard of the all-important clinical truth, that during the whole term mentioned diseased conditions invariably persist.

All that the limits of this discussion strictly permit has perhaps now been said; but one statement, many years since forcibly urged in a leading article of the *British and Foreign Medico-Chirurgical Journal*, appears of such paramount importance as to warrant its repeated mention whenever the treatment of typhoid comes up. The writer of that article maintained that if by simple means, for example, *pro re nata*, once, twice or three times daily, some such pill as the following,

Powdered Rhubarb	2 grs.
Comp. ext. Colocynth	½ gr.
Ext. Hyoscyamus	5-6 gr.
Oil of Caraway	q. s.

adding, in case of need, a simple enema, a daily dejection, fæcal in character, be secured during the first week of typhoid, the graver symptoms of the follow-

ing period, which he thought justly characterized as those of septic poisoning, would not, to any marked degree, occur. Where such a care has been neglected it is believed that the best key to subsequent successful control has been lost.

No one questions the inestimable value of diagnosing early and of treating promptly every variety of grave disease, but this is never more indispensible than during the onset of typhoid; and the clinical gain would be immense, did every practitioner feel himself under bonds at least to entertain the question of impending typhoid, whenever, in the absence of distinctly localized inflammations, two conditions exist, inability to keep any longer erect and utter disappearance of appetite.

Dr. F. E. Cheney reported

AN UNCOMPLICATED CASE OF PROGRESSIVE OPHTHALMOPLEGIA EXTERNA, OR A SYMMETRICAL PARALYSIS OF THE EXTERNAL OCULAR MUSCLES.[4]

Dr. Wadsworth: The case reported by Dr. Cheney is a very interesting one, if for nothing else, from its rarity. It is the only entirely uncomplicated case of ophthalmoplegia externa that I remember to have seen. Such cases I believe are nuclear. Ophthalmoplegia complicated with other symptoms is not very rare. A number of years ago I showed a patient at this society with locomotor ataxia and ophthalmoplegia externa and interna. A few years ago I reported a case of ophthalmoplegia externa and double optic neuritis, apparently due to lead poisoning. At one time I was inclined to regard this case as one of nuclear disease, but am now disposed to think it one of peripheral neuritis. The paralysis of the ocular muscles was acute, and was entirely recovered from. Three days ago I saw a man of fifty years of age with ophthalmoplegia and simple optic atrophy. The ophthalmoplegia had begun twelve years ago, with sudden dropping of the left upper lid; the date at which the right eye was first affected is uncertain. Failure of vision was first noticed six or seven years ago. There is now in the left eye no perception of light; complete paralysis of all the ocular muscles; the right eye counts figures at two feet; ptosis is only partial, but all the other muscles are paralyzed except the superior oblique. It is remarkable that, with total inaction of all the other muscles, the right superior oblique appears to act with normal vigor. I discovered no other symptoms; there was nothing to point to locomotor ataxia, but I was unable to make an exhaustive examination at the time, and hope to have opportunity for further investigation.

Dr. Bullard stated that it was now generally admitted that chronic progressive total opthalmoplegia externa was always nuclear, and the lesion in these cases was disease and destruction of the cells of the nerve nuclei, similar to that which occurred in the gray matter of the cord in progressive muscular atrophy.

Dr. Wadsworth: I should like to say a word as to the nomenclature. Hutchinson first applied the term ophthalmoplegia externa to cases in which the external ocular muscles were paralyzed, in distinction to cases of paralysis of the internal ocular muscles, which he called ophthalmoplegia interna. But he soon after published a series of cases under the former title, in many of which the internal muscles also were paralyzed, and there were other complications. I quite agree with what Dr. Bullard has said regarding the nuclear origin. The term, I think, should not be applied unless more than one nerve is involved. The cerebellar affection referred to by Dr. Prince, involving the red nucleus, and so the fibres of the third nerve as they pass through it, would only affect one of the ocular nerves, and in such case the term would not be appropriate.

Dr. Walton: In connection with the question of neuritis, as causing symptoms similar to those of ophthalmoplegia, I should like to mention a case which I saw at the Eye and Ear Infirmary, at the request of Dr. Sprague. The patient was a middle aged man, who had complete immobility of the globe, together with lid drop in both eyes. He also had, however, optic atrophy and tenderness of the extremities, together with diffuse numbness and motor weakness. It was, therefore, a typical case of multiple neuritis, affecting, among other nerves, those whose nuclei are commonly attacked in ophthalmoplegia. The cause was probably tobacco. I do not mention this case with a view of advancing the theory that neuritis is the cause of the disease under discussion (which I think is undoubtedly nuclear, and analogous to bulbar paralysis), but to call attention to a possible source of confusion in diagnosis.

Dr. Cheney said: Dr. Prince must have misunderstood my statement in regard to paralysis of the intra-ocular muscles in this disease. My statement was: — "The intra-ocular muscles, in the uncomplicated form of the disease, do not suffer." I have examined the reports of between twenty and twenty-five of the uncomplicated cases, and in none of them were the intra-ocular muscles affected.

FIFTH DISTRICT BRANCH OF THE NEW YORK STATE MEDICAL ASSOCIATION.[1]

Dr. T. H. Allen, of New York, read a paper on

TRAUMATIC PELVIC CELLULITIS.

This cellulitis, he said, was always associated with a unilateral or bilateral laceration of the neck of the uterus, and much more frequently with the former because this was almost always deeper than the bilateral tear. He did not believe that in every case of laceration the involution of the uterus is arrested; but numerous examples of subinvolution, associated with laceration, had led him to consider the relation of cause and effect to the positive and direct. He then proceeded to the narration of cases.

Case I. Mrs. R., aged twenty-nine years, has had three children, the last two of whom are living. After her last labor, nearly eighteen months ago, her health began to fail. The flow did not cease entirely until three months. Since her confinement she has become pale and anæmic; has had intense headache, radiating anteriorly and posteriorly from a point on the vertex, and also attacks of syncope increasing in frequency; pain in back and left iliac region; frequent micturition. Examination: Left lateral laceration, one-quarter of an inch in depth; uterus much enlarged; length of uterine cavity, three and one-half inches; thickening beyond the utero-vaginal junction in left broad ligament, circumscribed and intensely tender to touch. Tonics were given and hot water used faithfully after

[4] See page 224 of the Journal.

[1] Concluded from page 213 of the Journal.

the manner advised by Emmet, but the tenderness persisted. Trachelorrhaphy was then performed in the usual way, five silver sutures being inserted. The patient was placed in bed and her water drawn with the catheter every six hours. Union was complete, and at the time of her getting up there was no tenderness, and the heat and pain on the left side had markedly diminished. She rapidly got well, and continues so at the present time, two years after the operation. The uterus measured two and one-half inches six weeks after the operation.

CASE II. Mrs. P., age twenty-nine; one child, stillborn, two years previous to consultation, labor tedious, instrumental delivery, lochia continued ten weeks. Since then her health had become seriously impaired; loss of flesh and strength; general facial acne; recurring hemicrania; pain in back and left ovarian region; irritability of bladder, dyspareunia; mental depression, and irritability; lack of self-control; suspicion; jealousy. An examination showed unilateral laceration of cervix and traumatic cellulitis of left broad ligament. The patient having already used hot water injections, under the advice of her physician, the operation of trachelorrhaphy was performed five days later. This was successful, and two months after operation she felt much better and her acne had almost entirely disappeared. There was no pain or tenderness remaining, and she was bright and cheerful. Since this time, over a year ago, the patient, whose marital relations were previously strained, has lived happily with her husband.

Having related four other cases, Dr. Allen said it must not be inferred from these that he is prone to operate in laceration complicated with cellulitis. This he would do only in exceptional instances. The opinion of the best gynæcologists he believed was expressed in the following quotation upon a paper read by Dr. C. C. Lee, before the Medical Society of the County of New York, in 1881. "When any decided inflammation exists about the uterus, or so long as any tenderness can be detected in the neighboring connective tissue, it is unsafe to operate." It was also true, however, as stated by Dr. Bache Emmet, in the "American System of Gynæcology." "In other cases the indurated and sensitive angle of laceration will be very marked and easily detached from the first, and in these cases there can be no question as to the necessity of removal of such a foreign body as a cicatrix." In this statement he thought Dr. Emmet had touched the keynote of the treatment, for he believed that this foreign body was the cause of the coëxisting cellulitis. There was a limited class of cases in which the use of copious intra-vaginal injections of hot water and other well-directed local as well as general treatment might improve, but not cure, a coëxisting cellulitis. This class of cases broadened the field for trachelorrhaphy, and to it, Dr. Allen said he had given the designation "traumatic pelvic cellulitis," to distinguish it from the more diffuse form of pelvic inflammation. It was primarily occasioned by a wound — a tear — and nature in her unassisted efforts to repair the loss of continuity in the uterine neck, built up a structure histologically different from the adjacent tissue, which operated in the same way as a foreign body. It was like cellulitis in the forearm of an insane woman, occasioned by stigmatization with small pieces of glass. The wound healed with the glass spiculæ remaining in the areolar tissue, but there was left a chronic form of inflammation which did not suppurate, but which resulted in cellular thickening, attended with pain and slight swelling, which increased to-day and diminished to-morrow, until finally relieved by excision. The operation of trachelorrhapy removed the cicatricial tissue (the foreign body) and completed the sphincteric arc of the neck with tissue identical in character, while it also had the effect of relieving by the bleeding caused by it, the congested blood-vessels and lymphatics, and of imparting a new impulse to the processes of nutrition. In concluding, Dr. Allen recapitulated the points of his paper as follows:

(1) Lacerations of the cervix uteri may result in the formation of cicatricial tissue which produces chronic traumatic pelvic cellulitis.

(2) In a limited number of these cases, local or general treatment, or both, will not subdue this inflammation and pain.

(3) Such treatment having failed, trachelorrhaphy may be performed successfully.

(4) The dense mass of cicatricial tissue operates similarly to a foreign body, and its removal by Emmet's operation is a logical remedy which precludes the possibility of its re-formation.

AFTERNOON SESSION.

DR. J. A. WYETH, of New York, gave an analysis, with comments, of a number of

IMPORTANT SURGICAL CASES

recently treated by him. They comprised supra-pubic lithotomy and other operations upon the bladder, ligation of arteries for various conditions, amputations and resection of the knee-joint. In regard to supra-pubic lithotomy, he said that after a career of varying fortune, in which at times it was unduly lauded and at times entirely abandoned, he believed this operation had now attained a secure position, which, on account of the improved facilities at the command of the modern surgeon, it would maintain permanently in the future. He also mentioned the various conditions in which it was applicable and in which it was, in his opinion, decidedly preferable to perineal section.

DR. J. G. TRUAX, of New York, read a paper on

THE TREATMENT OF ACUTE LOBAR PNEUMONIA.

Within the last four months he said he had attended fifty cases of this disease. Of these he related two cases representing the conditions requiring the greatest variation in the treatment. The first was a patient in middle life, of medium size, and fairly well nourished. All the ordinary symptoms and signs of pneumonia were present, but the attack was not of great severity. The temperature two or three degrees above normal, the pulse rarely above 100, no delirium, no albuminuria, and the crisis occurring in from five to ten days. This class of cases comprised about one-half of those met with by the physician, and nearly all such patients would recover, whatever the treatment adopted.

In the second class of cases, while the difference in the physical signs might not be very great, the clinical history differed widely, and to conduct such a case to a favorable termination required all the care and skill of the intelligent physician. Here albuminuria and delirium were almost always present, the temperature rose to 104° or 105°, and the pulse was from 120 to 140; while there was great embarrassment of the respiratory circulation, and consequently a labored heart action.

Dr. Truax said he had tried almost all kinds of treatment, other than venesection, to relieve the heart when obstruction to the pulmonary circulation was very great, and death from heart failure imminent; but with no great success. He lost five patients in succession (all Italians) from this cause, none of whom had more than one lobe of one lung affected, and all having the appearance of comparatively robust men. With this experience before him, to take from such patients venous blood, thus relieving the right heart, and also to some extent diminishing the pulmonary congestion, appeared to him to be rational treatment. Accordingly, the next five patients coming under his care, who seemed to be in great danger of dying from heart failure, were bled; and they all recovered, all the more aggravated symptoms improving immediately after the venesection. He found also that, after bleeding, small doses of antifebrine and quinine were efficient in controlling the temperature and pulse for a long time, while, given in large doses before bleeding, these drugs produced no effect in the same cases.

Dr. Truax then proceeded to give a condensed report of the five cases bled; after which, he suggested the following general rules for the treatment of acute lobar pneumonia. When the patient is first seen, unless it is contraindicated, a brisk cathartic. Should there not be much embarrassment of the pulmonary circulation or a very high temperature, the treatment should be expectant, a liberal milk diet being all that is ordinarily required. When there is great dyspnœa, high temperature, and a rapid, bounding pulse, active treatment is called for; and, to relieve these symptoms, the patient should first be given ten grains of quinine and three grains of antifebrine every four hours until some improvement is noted. Should improvement not occur within twenty-four hours, venesection should be resorted to, and enough blood withdrawn to relieve the patient. In the five cases reported, from eleven to seventeen ounces were taken; and Dr. Truax said that his experience had led him to believe that bleeding will save many patients when all other means would prove fatal.

Dr. Alfred L. Carroll, of New York, said that there could be no doubt that, in many cases of pneumonia, the need of arterial sedatives was manifestly indicated, and of all arterial sedatives venesection was the most powerful. There was, however, a third class of cases, not referred to in the paper, in which stimulus was urgently demanded on account of the feebleness of the patient. Take, for instance, he said, the average seamstress of the city. In the second class mentioned by Dr. Truax, there was danger of asphyxia, in other words, of the patient's drowning in his own fluid. In such cases, he did not think any intelligent physician, at the present day, was afraid of drawing blood from the arm. The lungs were engorged with blood, and the heart's action embarrassed, and venesection did not cure the pneumonia, but simply removed an obstruction. It was not, therefore, to be regarded as a curative; and in many instances, other arterial sedatives were sufficient to secure the desired end. When these other sedatives failed, it was unquestionably the physician's duty to resort to the lancet. The albuminaria spoken of by Dr. Truax, as occurring in many severe cases of pneumonia, was an indication of the venous congestion met with everywhere in the system.

Dr. E. R. Squibb, of Brooklyn, inquired whether Dr. Truax had ever used veratrum viride, the old substitute for venesection, which often accomplished what venesection would, in cases where the latter was inappropriate. He also asked whether Dr. Truax knew that he could get antifebrine for half the money if he bought it under its other name of acetanilide. The name antifebrine had been patented simply for the purpose of making money, and the same drug sold under that name cost double the price it did under that of acetanilide.

Dr. Murray, of Brooklyn, said that, by giving veratrum viride in doses of from half a drop to two drops every half-hour, he had never met with any difficulty in reducing the temperature. He was in the habit of carrying the drug to the extent of producing nausea; when he gave Dover's powder, and afterward stimulus, if it was required. Personally, he much preferred veratrum to venesection; and he should certainly give it a trial in any case before he resorted to bleeding.

Dr. C. S. Wood, of New York, said that, in former years, it was often noted that veratrum viride and antimony had a marked effect if they were administered after the patient had been bled, but did not exert their appropriate action if given upon venesection. He was firmly convinced that, in the class of cases described by Dr. Truax, there was nothing that could compare in efficiency with bleeding.

Dr. Truax, in closing the discussion, said that he entirely agreed with Dr. Carroll, that, in feeble patients, stimulants were clearly called for; and it was his practice to use them freely whenever they seemed indicated. In reply to Dr. Squibb, he stated that he had often tried veratrum viride; but cases were sometimes met with in which neither it nor anything else would take the place of bleeding.

Recent Literature.

A Text Book of Pathology, Systematic and Practical. By D. J. Hamilton, M.B., F.R.C.S.E., F.R.S.E., Professor of Pathology, University of Aberdeen. Vol. 1, pp. ix, 736. MacMillan & Co., 1889.

With each year the scope of a text-book of pathology increases, and from simply describing the appearances of the tissues and organs after death it now includes an inquiry into the causation of the various phenomena of disease, elucidated by experiment and bedside observation. It has to deal with pathological physiology as well as anatomy.

In the book before us the subject has been treated in this comprehensive way, to be completed in a second volume which is shortly promised.

The first part of this one is devoted to pathological technology. The manner and method of making post mortem examinations; the preparation of tissues and organs for microscopic work; and the obtaining and cultivation of bacteria.

To the methods of making autopsies which have been in use for the past twenty years, little that is new can be added, and the slight modifications advanced are rather to be regarded as personal preferences than any real advance. The author prefers opening the brain by a series of transverse vertical cuts through the whole organ, to first separating the hemispheres by a series of longitudinal ones. This is certainly the

best method, if the brain is first hardened in Müller's fluid, as lesions can thus be localized with far greater accuracy than when simply examined in the fresh state at the time of the autopsy.

The part devoted to microscopic technique shows a thorough acquaintance with the subject, and only well-tried and thoroughly approved methods are given. It is especially explicit in directions for the use of the freezing mixture, which is greatly preferred for general use.

The part devoted to bacteriological methods adds but little, as it is not full enough to be of great practical value; for this department has become so extended as to be entirely beyond the field of the general pathologist, and its manipulation should be left to those who have had the extended training of the specialist.

The last part of the volume takes up general pathology and a few subjects in special pathology. In the arrangement there is nothing strikingly new. The latest information is given, however, without too strong a presentation of the author's personal views. But there is evident, throughout, original investigation on his part which carries weight in his judgment of the work of others.

The blood, heart and blood vessels are taken up in the special part and are fully gone into. The normal conditions are always placed before the reader for comparison, and are of great value in this respect. The numerous illustrations are mostly original and clear cut.

We can highly recommend the book as containing a great deal that is very good, clearly arranged and indexed, and if the second volume carries out the subject as well as it has been begun, the work will be a valuable contribution to our text books on pathology in the English language.

Studies in Pathological Anatomy. By FRANCIS DELAFIELD, M.D., Professor of Pathology and Practical Medicine, College of Physicians and Surgeons. Vol. II, Part III. Acute Bright's Disease. Pages 37–64, plates xl–lxxxii. Wm. Wood & Co. 1888.

This is a continuation of a work begun several years ago, of which the preceding parts, treating chiefly of inflammation and diseases of the lungs, have already been noticed.

As the title indicates, this number deals with the kidney. It is the aim of every one who has studied the subject to bring under general heads the various lesions which are found on the post-mortem table, and refer them to some systematic classification. This has been attempted here. The author first gives a capital short resumé of the various views that have been advanced since the time of Bright, and the successive advances which have been made in our knowledge. He then gives his own idea, and classifies all the diseases under the two general heads of Acute or Chronic Bright's Disease.

The former is alone considered here, and is subdivided into acute exudative nephritis, acute degeneration of the kidney, and acute diffuse nephritis. The first is defined as "an acute inflammation of the kidney, characterized by congestion, an exudation of plasma, an emigration of white blood cells, and a diapedesis of red blood corpuscles from the vessels, to which may be added swelling or necrosis of the renal epithelium and changes in the glomeruli. This form may be primary, but generally is a complication of the acute infectious diseases." The second subdivision is "characterized by degeneration or death of the epithelial cells of the tubules, and is caused by the infectious diseases, severe inflammations, and poisons, such as arsenic, mercury, and phosphorus." The third form he regards as the most serious and important. Its lesions are those belonging to the acute exudative type, with two additional changes: (1) A growth of connective tissue stroma; (2) a growth of the capsule cells of the malpighian bodies. This is one of the forms of scarlatinal nephritis. It occurs early and late in the course of diphtheria, is the most important variety of the nephritis of pregnancy, and it is especially frequent as a primary nephritis, with or without a history of exposure to cold."

As presented here we fail to see that there is anything essentially new in his classification, or that there is any distinct advance made. For our own part, we fear that hard and fast lines cannot be drawn, and that, although there appear to be certain end types which are fairly distinct from each other, that there also occur numerous intermediate and mixed forms which will always with difficulty be brought under any system.

His views are illustrated by forty-two plates, chiefly from micro-photographs. These are of large size and beautifully executed. The first ten are of the normal kidney, to be used for comparison. One of the supposed advantages of this mode of illustration is that the reader can study and compare the plates as he would microscopic slides, as they are exact transcripts of nature. We wish, therefore, that the same power had always been employed in the ones which are thus to be used, instead of varying it, as has been done in many cases; thirty diameters to be compared with fifty, four hundred with four hundred and thirty or with two hundred and twenty diameters.

This certainly is the ideal method of illustration, and as marking progress thanks are due to Dr. Delafield for the great trouble he has been at in giving us this handsome book. But we feel in the present stage of the art that the average reader who has not had considerable experience with the microscope will fail to appreciate the differences which are intended to be conveyed here, and which, under the hand of a skilful draughtsman, would have more clearly presented the author's views.

— Dr. J. T. McCormac, writing to the *Medical News*, says that the old saying, that "there is nothing new under the sun," is beautifully illustrated by the latest of Dr. Brown-Sequard's "discoveries." For over twenty years, to the personal knowledge of the writer, and probably for as many centuries, the Chinese have used the testicles of the sea lion for the purpose of stimulating the organs of generation in man, and as a general nerve stimulant.

A great many sea lions are killed, chiefly for their oil; but the bristles, and penis with testicles, are sold to agents of the Chinese. The first are used for ornaments, but the last two articles are used by them as medicine. At times as many as one hundred and fifty are seen drying in the sun. When needed, a portion of a testicle is grated into a vessel, and an infusion is made, which is administered *pro re nata*.

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PROPHYLAXIS OF TUBERCULOSIS.

Report of the Paris Commission. – Instructions to the Public. – The Discussion at the Academy of Medicine.

The Permanent Commission, appointed last year by the Congress for the Study of Tuberculosis, has just presented its report, through M. Villemin, Chairman. This report embodies certain instructions to the public, which the Commission deems of sufficient importance for general adoption. We can only summarize this report, a comparison of which with those issued in Berlin and New York, and previously referred to, offers interest.

Tuberculosis is, of all diseases, that which has the most victims, especially in the cities. More than one-fourth of the mortality of Paris, during the year 1884, was from tuberculosis in some of its forms.

Tuberculosis is a parasitic, virulent, contagious, transmissible disease, caused by Koch's bacillus. The microbe penetrates the organism by food, by air of respiration, and through the skin and mucous membranes by abrasions, excoriations, and divers ulcerations.

Certain diseases, as measles, chronic bronchitis, pneumonia; certain constitutional states due to diabetes, alcoholism, syphilis, predispose to tuberculosis.

The cause of tuberculosis being known, there is but little difficulty in preventing its dissemination and propagation, if proper prophylactic means are taken.

The parasite of tuberculosis may infect the milk, muscles, and blood of animals which serve for the food of man.

Raw meat, underdone meat, blood, may contain the living germ of tuberculosis, and should be interdicted. For the same reasons, milk should be boiled before being ingested. By reason of the dangers which attend the use of raw milk, the protection of young children, who are so susceptible to tuberculosis, should earnestly engage the attention of mothers and nurses. Lactation by a healthy woman is the ideal method. The tuberculous mother should be forbidden to nurse her infant, which should be confided to a healthy wet-nurse living in the country, or where the hygienic conditions are good. The risks of tuberculous contagion are less in the country than in the city. If nursing at the breast be impossible, and the infant is reared on cow's milk, the latter ought always to be boiled. Goat's or ass's milk is less objectionable, and may be given unboiled.

By reason of the dangers which attend the use of butchers' meat, which may come from animals that were tuberculous, though having every appearance of health, the public should insist that the inspection of all meats, as required by the law, should be rigorously enforced.

The only sure way of avoiding the dangers arising from meat derived from tuberculous animals, is to subject such meat to a thorough cooking, which shall include the entire substance in depth, as well as the surface; meats completely roasted, boiled, or broiled are alone safe.

As the germ of tuberculosis may be transmitted from the tuberculous to the healthy man, by sputa, pus, dried mucosities, clothing, or other objects impregnated with fine tuberculous particles, it is necessary for the public, in order to be protected against the contagion:

(1) To know that, the sputa of phthisical patients being the most formidable agents of the transmission of tuberculosis, there is danger in allowing these expectorated matters to be deposited on the ground, on carpets, on drapery, screens, towels, handkerchiefs, clothing, and bed linen.

(2) To be persuaded that the use of spittoons is obligatory on all phthisical patients everywhere. Spittoons should always be emptied into the fire and cleansed with boiling water. They should never be emptied on dung heaps, on garden soil, (where they may tubercularize fowl), nor into privies.

(3) To refrain from sleeping in the bed of a tuberculous patient; to remain as little as possible in a room occupied by such person. This caution is especially applicable to young children.

(4) To sequestrate from all places occupied by phthisical patients, individuals considered as predisposed to tuberculosis; children born of tuberculous parents, or that have lately had measles, small-pox, pneumonia, etc; all diabetic patients.

(5) To avoid using objects which a phthisical patient may have contaminated (garments, bed-clothing, toilet-implements, playthings, etc.) till after previous disinfection (in the hot-air stove, by boiling water, sulphur fumigations, etc.).

(6) To insist that the rooms of hotels, furnished houses, cottages occupied by phthisical patients at watering-places or winter stations, shall be equipped and tapestried in such a way that disinfection may be

easily and completely effected after the departure of each patient. It would be better that these apartments should have no hangings or tapestry, and that they should be whitewashed; the floors should be bare, either oiled or painted. Hotels and furnished cottages in which such hygienic precautions and measures of disinfection are taken should alone be patronized by the public.

At the meeting of the Academy of Medicine, August 6, 1889, this report was discussed. Dujardin-Beaumetz was in favor of suppressing entirely the sections pertaining to raw meat and raw milk. There is nothing that proves the possibility (in man at least) of the transmission of tuberculosis by butchers' meat. As for milk, if it be true that it may on certain occasions contain bacilli, we must not forget that in order that milk may be thus contaminated the cow must not only be tuberculous, but must also have tuberculous mammitis.

Germain Sée did not believe in the communication of tuberculosis by the air of respiration. The bacillus cannot live in the air; it never develops and multiplies outside of the organism of man or the animal; in the open air it dies rapidly, as, in order to live, it needs a temperature of 30° C. The matter of atmospheric contagion is a bugaboo, which has already wrought trouble in families by causing the poor consumptive to be treated like a leper — shunned and abandoned by his nearest relatives. It has been demonstrated experimentally, that air taken three or four yards from the bed of a consumptive patient does not contain a single bacillus; but if the air exhaled by a phthisical person is inoffensive, the sputa are not so, and too much pains cannot be taken to disinfect and destroy all expectorated matters.

With regard to the prohibition of meat and blood, it is a fact, said Professor Sée, that the blood is never virulent, and animal flesh, according to recent experiments (Nocard, of Alfort), far from containing bacilli, destroys them by the muscular juice which the flesh contains. Hence, there is no necessity, in order to destroy the bacillus, to boil meat to a pap, to forbid roast meat, or underdone meat, or even raw meat. If we were to hearken to the Commission, he thought we should be deprived of some of our best alimentary products, and nothing would be served on our tables that was not spoiled to the taste by over-cooking, as well as rendered more indigestible thereby.

With regard to the care that should be taken of those that were hereditarily predisposed to tuberculosis, he thought that excessive precaution was an evil; the best prophylactic is gymnastic exercises and hydrotherapy.

Professor Sée did not think persons especially liable to tuberculosis, who had been subject to colds, bronchitis, or who had had pneumonia, measles, whooping-cough, or small-pox. On the contrary, he had found such persons remarkably exempt from tubercular diseases.

TUBERCULOUS MEAT.

SIMULTANEOUSLY with the report of the Permanent Commission of the French Congress on Tuberculosis, we have before us a voluminous report from Glasgow,[1] giving the proceedings at trial, under petitions of the Glasgow local authority, against two butchers who exposed for sale, for human food, the carcasses of two tuberculous animals. Among those giving testimony at the trial we find the well-known names of Dr. J. B. Russell, Medical Officer of Health for Glasgow since 1872; Joseph Coats, pathologist to the Royal Infirmary of Glasgow, and Prof. J. McCall, Principal of the Glasgow Veterinary College. In addition, there were the medical officers for Edinburgh and Greenock, and for Leeds, Birmingham and Hull; three other veterinary pathologists besides McCall; and Mr. Mayland, as a bacteriologist and pathologist in addition to Dr. Coats. There were, in all, fifteen witnesses for the prosecution and nineteen for the defence. The conclusions of the French Congress, as well as of the Brussels Veterinary Congress of 1883, and of a Departmental Committee of the Privy Council, were frequently referred to in the course of the testimony.

The cases were test cases, brought to enable the medical officers of Glasgow to apply the same stringent standards as were already enforced in Edinburgh and Greenock.

The evidence showed that, in regard to one of the animals, "there were tubercles in the substance of the lungs themselves, in both the costal and pulmonary pleura, in the pleura connected with the diaphragm, and further in the cavity of the body enclosing the respiratory organs;" there was tubercular deposit in the lymphatics, and tubercular bacilli were found in the inguinal gland. In regard to the other, it was shown that there was active tuberculosis in the lungs and pleura, and bacilli were found in the prepectoral gland. The question before the court was, whether the meat of these animals after the carcasses had been "stripped" was "unfit for the food of man."

The prosecution laid down five propositions, and asked for conviction upon their acceptance by the court: (1) The disease called tuberculosis, whatever form it may assume, whether phthisis, or scrofula, or struma, is a widespread disease amongst animals and man, and to it may be attributed a large percentage of the deaths in the community, and a very large proportion of the ill health. (2) That the disease known as tuberculosis now, is identical in man and in the lower animals. (3) The disease is communicable from the lower animals to man, by, amongst other means, inhalation and ingestion. (4) The disease tuberculosis is due to the active presence of a specific organism known as the bacillus tuberculosis. (5) Given the signs of tuberculosis upon certain specific organs of an ani-

[1] Tuberculous Meat. Proceedings at Trial under Petitions, at the Instance of the Glasgow Local Authority, against Hugh Couper and Charles Moore, before Sheriff Berry, at Glasgow, on May 28, 29, 30, 31, and June 1 and 17, 1889. Interlocutors, June 20, 1889. Glasgow: Printed by William Hodge & Co. pp. 414.

mal, you may and ought reasonably to infer that the virus of the disease is in other portions of the carcass of the animal, where there may be no outward and visible signs to indicate its presence.

The defence held that: No one has ever yet heard of a case of tuberculosis contracted from the ingestion of tuberculous meat; but in the case of milk, the disease has been traced, and if in the latter, why not in the former; that cooking was a sufficient safeguard, and if people preferred to eat partially cooked meat, they should be allowed to take whatever infinitesimal risks might exist; that, even when the bacillus enters the alimentary canal, there must be a degenerated condition of the tissues before it can find lodgement and fructify; that to a healthy person, therefore, the danger is perfectly visionary; that the alimentary canal is the least favorable channel for entrance into the system; that the disease in these cases was so localized as not to affect the flesh in general; that, in any case, the danger to health and life must be extremely small, too small to justify the exclusion from the market or destruction of large amounts of good, wholesome food.

The prosecution pointed out the inherent difficulty of proving, as a matter of fact, and not merely as a matter of opinion, the actual communication of tuberculosis to human beings by the ingestion of the flesh of tuberculous animals; and adduced evidence that the flesh of animals affected with tuberculosis, more or less, and offered for sale for food in Glasgow, is one half per cent. in the year.

In summing up the evidence and the arguments, the court held that: Whether ingestion be or be not the commonest way in which tuberculosis is communicated, it must certainly be regarded as one mode of its communication; except on the footing that the meat was the medium of the transmission of the disease, it would be unnecessary and wasteful to exclude from the food-supply the carcasses of animals suffering from tuberculosis, however generalized and extensive; but the previously existent practice in Glasgow and elsewhere of condemning extensively diseased animals, clearly showed that the transmissibility of the disease by ingestion had long been recognized, and the evidence lead to the conclusion that it would not be proper to trust to cooking as a sufficient protection; that every animal suffering from tuberculosis, however limited in degree or apparently in locality, probably ought to be condemned, and that such condemnation would not cause a loss of food of more than one-quarter of one per cent; but, in the present instances, the disease, having extended to the lympathic glands, was undoubtedly generalized.

The number and character of the witnesses, the clearness of statement of the counsel, the respectability of the court and the Scotch reputation for shrewd, practical common sense, give the report and result of this trial a considerable interest, as bearing upon the present position of science and practice in regard to the questions involved. Should it ultimately appear, as we see by the published abstract of a paper, to be read at the approaching meeting of the Association of American Physicians, Dr. H. C. Ernst thinks he is in a position to prove, that the milk from a cow suffering from tuberculosis is dangerous as an article of food, no matter where the pathological change may be situated, and that Koch's limitation of the danger to tuberculosis of the lacteal tract was too restricted, then the position of those who condemn the meat, even of locally infected animals, would be greatly strengthened.

THE MODE OF ACTION OF HEART TONICS.

PROFESSOR STOKVIS, of Amsterdam, has recently performed some experiments to ascertain the mode of action of cardiac tonics. In order to do away with all external influences, he experimented with the heart of cold-blooded animals, isolated from the body of the animal, and traversed by an indifferent liquid rich in oxygen.

He observed that digitalis produces on the heart thus isolated an augmentation in the frequency and energy of the cardiac contractions; it acts on the vaso-motor centre, and on the muscular fibres of the small vessels which contract, giving rise to an augmentation of the blood pressure. He infers from these effects that digitalis is always indicated when the pulse is frequent, small, irregular, when there is accumulation of venous blood, and when diuresis is diminished.

Professor Stokvis has made experiments with other substances regarded as heart tonics, with these results:

Adonis vernalis and convallaria majalis have an action much less persistent than digitalis, and may also accumulate in the organism like the latter. On the other hand, strophanthus is more active than digitalis, but has no influence on the vaso-motor centre, and the augmentation of the blood pressure is due solely to its stimulant action on the heart.

As for sparteine, it diminishes the force of the heart, and does not act on the vaso-motor centre.

Caffeine possesses a very marked diuretic action; it acts in a special manner on the epithelial cells of the uriniferous tubes, and augments both the frequency of the pulse and the blood pressure.

ON HYPNOTISM AND SUGGESTION IN THE TREATMENT OF MENTAL DISEASES.

AT the recent Congress of Experimental Hypnotism, held in Paris, August 8–12, 1889, M. Aug. Voisin, of Paris, referee, spoke of the treatment of mental diseases by hypnotism. Till 1880, hypnotism in the insane was considered an impossibility. At this epoch M. Voisin succeeded in a case of acute mania; then he sought to hypnotize other insane patients, and succeeded in obtaining hypnosis in ten per cent. of the patients. He has applied hypnotism to combat the vices, the grovelling inclinations, the abuse of medi-

cines, certain defects of the intelligence, the neuralgias, the contractures, etc., in the insane.

Much time and patience, he says, are required; one must repeat ten and even twenty times the attempts. Lethargy or somnambalism must be obtained, but better the former. Let the patient sleep half an hour or an hour at the first *séance*, and do not commence suggestion until the second.

M. Voisin takes up but one delirious conception at a time, and lets the patient sleep a long time, even twenty-four hours. The "suggestion" must be uttered distinctly and imperiously. The patient must be disengaged from all external influences, then each hallucination must be combated successively; his delirium *must be worn out piecemeal*. Then the patient is persuaded that a cure is possible, and lastly this is affirmed.

The lunatic sometimes manifests bad temper when his hallucination is combated; it is then necessary to insist until his consent is obtained. The operator should be careful not to suggest illusions of any kind; he should give only good advice, counsel work, etc.

Voisin claims excellent results from this practice, in the troubles and hallucinations of the senses or of the general sensibility in dyschromatopsia, in anæsthesia and hyperæsthesia, in neuropathic paralysis and contractures, and in onanism. He claims, moreover, to have found hypnotism very efficacious as a means of moral discipline in degenerate and profoundly vicious children. He has observed relapses in a tenth of the cases, and has found it necessary frequently to renew the treatment.

At the same meeting, Dr. De Jong spoke of the value of hypnotism in melancholia. This is one of the psychoses most favorably influenced. He has also known hypnotic suggestion to cure agoraphobia, the fear of thunder, the "*folie de doute*," and writers' cramp!

MEDICAL NOTES.

— The 57th Annual Meeting of the British Medical Association was held from August 13th to 16th, at Leeds. The attendance was over 900. The address in Medicine was given by J. Hughlings Jackson; and that in Psychology by Sir James Crichton-Browne. The meeting was under the presidency of Mr. Wheelhouse, and it is said by our British contemporaries to have been one of the most successful ever held.

— The new building for Christ Hospital, in Palisade Avenue, Jersey City Heights, is now nearing completion. It will be finished in October, and will be opened and dedicated with interesting ceremonies. The new building is three stories high, built of red brick, with brown and gray stone trimmings. It is in the shape of a cross, and over the entrance is inscribed, "Christ Hospital, A. D., 1888. Erected in Memory of Richard Mason Abercrombie." The view to be had from the windows is beautiful, and all the rooms are commodious.

— The following call has been issued: "The members of the medical profession in Alabama, Georgia and Tennessee are requested to meet in Chattanooga on the third Tuesday in October, for the purpose of forming a Tri-State Medical Association. All will be admitted to the meeting of the Association, but the membership will be restricted to graduates of regular Medical Colleges in good standing."

This call is signed by committees from Jackson County, Alabama, Medical Society; Chattanooga, Tennessee, Medical Society; Cleveland, Tennessee, Medical Society; Cartersville, Georgia, Medical Society, and Dalton, Georgia, Medical Society.

— The *New York Medical Journal* says that some medical students have asked the Mayor of New York to allow them a certain number of condemned dogs from the pound, for experimental purposes; that functionary has duly considered the request, also the protest of a certain humane person who dreads the cruelty to which the dogs might be subjected by the students, and has come to the conclusion that he will allow the students a supply of dead dogs but no live ones. This generosity reminds our contemporary of Artemus Ward's, as exemplified in his answer to a person who had asked the privilege of seeing his show without paying: — "No, you can't go in without paying, but you can pay without going in."

One of the latest inventions in sanitation is machinery for personal washing, says the *Popular Science Monthly*. A French colonel, according to Mr. Edwin Chadwick, ascertained that he could wash his men with tepid water for a centime, or one-tenth of a penny a head, soap included. The man undresses, steps into a tray of water, and soaps himself, when a jet of tepid water is played upon him. He then dries and dresses himself in five minutes, against twenty minutes in the bath, and with five gallons of water against seventy in the usual bath. In Germany they have an arrangement under which half a million of soldiers are regularly washed. By an adaption of the apparatus to the use of schools, a child may be completely washed in three minutes.

BOSTON AND NEW ENGLAND.

— A reporter gained access to the Boston Dispensary, the other day, and witnessed the application of the "suspension treatment" to a friend of his, presumably for tabes dorsalis, and after describing the apparatus, announces that it was first introduced into this country six months ago, and was the invention of Dr. Sayer, a Russian!

— A correspondent sends the following prescription. It was presented at one of our local drug stores, a short time since:

> Bolsom kaparie.
> Cramatartæ spirits initre.
> sulphuratis zync and rose water.

There were no quantities affixed. The disease for which it was deemed a cure is obvious.

— Dr. J. B. Andrews, of Mary Fletcher Hospital, has been elected Instructor of Physiology in the winter course of the Medical department of the University of Vermont; Dr. Linsley, who has held the position, being obliged to resign on account of his engagements in New York.

— The resignation of Dr. Charles E. Woodbury as Superintendent of the Rhode Island Hospital will take effect September 1st. The directors of that institution have chosen as his successor, Dr. John M. Peters, of Syracuse, N. Y. Dr. Peters is a graduate of Harvard Medical School, and during the year and one-half previous to May 1st, acted as house-officer at the hospital.

— Dr. Robert T. Davis, of Fall River, has been selected by Governor Ames as the third member of the Metropolitan Drainage Commission; the other two members (who have been confirmed by the Executive Council) being Hosea Kingman and Tilly Haynes. Dr. Davis, in addition to considerable political experience, including among other service that as mayor of Fall River, state senator, and member of Congress, brings to the Board a good sanitary knowledge. He was at one time a member of the State Board of Health.

Miscellany.

PHENACETIN IN PERTUSSIS.

Dr. George C. Irwin, of Sabetha, Kansas, reports in the *Archives of Pediatrics*, August, 1889, a case of uncomplicated pertussis, with severe laryngeal spasms of hourly occurrence, in an infant aged three months, for which, after using atropia, antipyrin, quinine, and other remedies so often recommended for this disease, he gave phenacetin in one-half grain doses in ten drops of pure glycerine, which is a moderately good solvent, and was surprised to find that it immediately gave relief, so that the first night after using it every four hours the child obtained six and one-half hours' good rest, and there has been a steady and gradual improvement since.

TREATMENT OF UTERINE COUGH.

The *Revue Gén. de Clin. et de Ther.* of June 27th, states that the valerianate of quinine will be found most valuable in the treatment of uterine cough. Its beneficial action is ascribed to its antispasmodic properties, as the affection itself is of a reflex nature.

I.

℞ Valerianate of quinine . . . . . grs. xv.
Infusion of black coffee . . . . . f ℥ jv.
Simple syrup . . . . . f ℥ jss M.
Sig. — One, two or three large spoonfuls after meals.

II.

℞ Valerianate of quinine
Extract of quinquina . . . . . } s. a.
Divide into ten pills.
Sig. — One pill after each meal.

The drug may be prescribed either in solution or pill form, as above. If the former is used, the addition of an infusion of black coffee will be found valuable.— *Medical News.*

MEDICAL MINIMS AND SURGICAL SAWS.

The most effective instrument of medical surgery is the nail-brush.

The patient's interest in his own case is clinical; it is rarely pathogenetic, and never necroscopic.

A long prescription maketh no one fat but the druggist.

Better is aqua fortis with a ready stomach, than the best drug of the pharmacopœia and retching therewith.

Woman has some organs outside the pelvis.

Berlin makes a physician learned; Vienna skilful; the bedside wise.

The same channel brings their bread alike to the harlot and to the virtuous midwife.

The truly *necessary* calls upon a physician will about suffice to pay his tythes.

In the domestic republic the family physician is nominated by the husband, but confirmed in executive session by the wife.

The good medical Samaritan must needs look to it lest he be sued for the quality of his wine and oil, the speed of his beast, and the roominess of the quarters he provides in the inn. Albeit he gives of them all the best he has, he may find that the one who has most fallen among thieves is himself.

THE DIAGNOSIS AND THE TREATMENT OF ECTOPIC PREGNANCY.

The above subject is considered by Dr. H. T. Hanks in the *New York Post Graduate Journal*, for July, 1889; and, after reviewing his own cases, the writer reaches these conclusions:

(1) *Electricity.*— If the diagnosis is made during the first three months, and if the symptoms have been only the early or premonitory symptoms of rupture, use electricity.

(2) *Laparotomy.*— If the diagnosis is not made until the fourth month and the severe symptoms continue, do a laparotomy, and remove the sac and contents in the most approved manner.

(3) *Laparotomy.*— If a diagnosis is made at whatever stage of ectopic pregnancy, and if the symptoms are alarming, and undoubtedly due to rupture and loss of blood, do a laparotomy at the earliest possible moment consistent with the patient's ability to endure an operation.

(4) *Delay a laparotomy until the seventh month.*—If the diagnosis is made after the fifth month, and the symptoms are less and less severe, the fœtus undoubtedly not in the Fallopian tube, and if the patient is anxious to bear a living child, and you are prepared to watch the patient, and be ready to meet, by laparotomy, at a moment's notice, any emergency which may arise, then delay is justifiable until the child is viable, in order that a laparotomy may be performed with the possibility and probability of saving *both* mother and child.

Operate in best manner for removal of dead fœtus.— When the pregnancy has continued beyond the ninth month, and the fœtus is found to be dead, the *amount* and *character* of *general* and *local disturbance* occasioned by the dead fœtus must determine when an abdominal section should be made, other operations performed, and the offending body removed.

A CASE OF ARROW POISONING BY CURARE.

MR. JOSEPH WHITE described to the Nottingham Medico-Chirurgical Society, as we learn from the *Lancet*, the case of a servant girl aged twenty-three, who, while standing on a pair of steps dusting some shields, etc., on the walls of the hall, fell to the ground, and in her fall had her right arm pierced by the point of an Indian arrow, which was arranged point upward in a stand below. The arrow was withdrawn in two minutes, and the patient was seen within half an hour of the time of the accident. When seen, the patient was in a state of collapse, with slow, shallow, jerking respiration and very feeble circulation. As the wound was throughout its track covered with brown (apparently vegetable) substance, it and the surrounding tissues were immediately freely excised and stimulants administered. The breathing becoming rapidly more slow and feeble, and then ceasing, an interrupted galvanic current was passed through the diaphragm, and artificial respiration kept up for more than an hour, during which time the heart acted extremely feebly. In two hours from the occurrence of the accident, and when artificial respiration had been maintained for about an hour and a half, respiration gradually returned and the pulse improved, and in a short time the patient was able to take small quantities of fluid nourishment, and during the day she gradually revived. For three or four days the girl remained in a very feeble condition. She was drowsy and disinclined for any mental effort, had persistent loathing of food, nausea, and constant headache, and during this time there was a large flow of urine of low specific gravity (1008), showing traces of albumen, and on the third day very slightly bloody. There was no trace of sugar. The wound on the arm after excision rapidly got well. It was believed that the arrow had been poisoned with woorari (curare), which was shown by experiments of Claude Bernard, Sibson, and others, to produce effects of a strikingly similar kind to those observed in this case.

TWO CASES OF ANTIFEBRIN POISONING.

THE *Medical News* has collated two recent cases of antifebrin poisoning. The first case, reported in the *Münch med. Wochenschrift*, No. 19, 1889, was that of a man, aged thirty-four, who fancied he had symptoms of fever, and procured from a druggist six antifebrin powders, of fifteen and one-half grains each. Returning home he took one powder every hour until five had been taken, beginning at 8.30 P. M., the total amount being seventy-seven grains. At four o'clock in the morning the patient was seized with violent diarrhœa. At about noon his appearance was as follows: Conjunctiva, lips and mucous membrane of mouth were blue; pulse small, but of normal frequence; heart normal. The urine gave aniline reaction. Extreme weakness, dizziness and chills; temperature 99° F.; evening, 101° F. Temperature on the following day, morning, 95° F.; evening, 100° F. The diarrhœa persisted for several days, the stools being quite watery and of a grayish black color. The patient suffered from loss of appetite, and recovered but slowly. In ten days he was able to be about again.

The second was reported in the *Wiener med. Presse*, No. 16, 1889, and has the following history: the patient was a girl, who, to relieve an attack of hemicrania, had taken sixty-two grains of antifebrin. Immediately after taken the dose she experienced nausea, eructations, and later, pain in the region of the stomach, and copious vomiting of a greenish watery fluid. These symptoms were followed by cyanosis, at first only of the lips, later of the entire face, hands and feet, whilst the skin of the body was pale and very cold. Pulse weak, almost imperceptible, but frequent, 140 pulsations to the minute; respirations shallow and rapid; the patient almost entirely unconscious. Later, symptoms of cerebral irritation manifested themselves; enlargement of the pupils, muscular twitchings of the face, gritting of teeth, rigidity of the extremities, and delirium. The patient then sank into a deep coma, from which she awoke in three hours.

Eight hours after the poisoning her senses fully returned, pulse eighty-four, and fairly strong; respirations normal, temperature somewhat sub-normal. Patient complained of pain in the stomach, and dizziness. Cyanosis disappeared in twenty-four hours. In two days the patient was able to leave her bed.

Correspondence.

EFFICACIOUSNESS OF THE ELIXIR VITÆ.

BOSTON, September 2, 1889.

MR. EDITOR, — A merry pal of the writer, who comes directly from the headquarters of the elixir vitæ, quotes the following tidbit from *Figaro:*

An aged *viveur*, upon the point of espousing a young and pretty girl, consults the inventor of this popular brew, with a view of obtaining a renewal of youth.

"Mais c'est bien facile, monsieur." The aged scientist, turning to his assistant: "Apportez moi un lapin seulment."

"Je ne veux pas de lapin," replies the to-be husband. "I must have the glands of some more noble animal, — a lion, *par example*, or, at any rate, a bull."

"Allez chercher le taureau!" And the injections were skilfully and quickly given.

Three months later the couple meet again in the street. "Eh bien, monsieur; et votre mariage?"

The seeker for youthful virility says not a word, but, removing his hat, exhibits a pair of small but flourishing horns! SENEX.

PARIS LETTER.

THE PARIS INTERNATIONAL CONGRESS OF THERAPEUTICS AND MATERIA MEDICA.

PARIS, August 16, 1889.

MR. EDITOR, — An International Congress of Therapeutics and Materia Medica is so unusual an event, that a few lines concerning it may interest the readers of the Journal, of whom I suppose some have remained in America, notwithstanding the fact that one meets here more medical acquaintances and more medical fellow-countrymen than at home.

This congress met in Paris during August, and was the first of its kind which has ever been held. It has awakened the interest of a large number of medical men, of whom more than five hundred were inscribed as members just before the congress opened.

The meetings continued through three days, with long sessions in both morning and afternoon. The morning sessions were in sections, — one devoted to therapeutics, the other to materia medica. The afternoon meeting had

a more general character, and included both sections of the congress. The excellent arrangement of all that has been presented at the meetings was a characteristic feature. On the morning of the first day, only twenty minutes were required to transact the general business of the congress and begin its work.

The length of the communications to be presented was limited to ten minutes each, and irrelevant remarks were skilfully cut short. In this way it was possible to have a considerable number of communications presented, and then discussion was full of life and interest.

Socially, the congress was entertained by Professor Dujardin-Beaumetz and his wife at a brilliant reception at their house: it was much enjoyed by a large number of those who came to the congress. Another delightful evening was passed at a banquet in the marvellous Eiffel tower in the Exhibition grounds. After the dinner, through the kindness of M. Eiffel, an ascent was made to the top of this most wonderful structure. The view of the illuminated carpet a thousand feet below, including the Exhibition grounds and Paris, was a very beautiful sight.

From a medical standpoint the congress was full of interest; and, besides the value which the communications will have when published, there will remain the encouragement and enthusiasm which such a gathering imparts to those who have shared its activity and enjoyed the pleasure and profit of acquaintance and discussion. Further, it will develop a more comprehensive conception of the questions involved in the treatment of disease. The enthusiast for some special form of relief for a given disease may learn at such a gathering that other methods have been equally successful; he may also be lifted to a point where he can appreciate the true relation borne by his observations to the general principles which underlie the treatment of that disease. The opportunity to observe how the same problem affects minds of medical men of various nationalities is most suggestive and instructive, and the whole question of treatment, as well as the special topic under discussion, is presented to the listener with a sweep and breadth not easily attained in any other way. Frequent meetings of those who are active in this department of knowledge can be made of much service; everything which will assist medical men to study the problem of giving relief to their patients from the widest possible standpoint will promote the simplification and advance of therapeutics.

As an indication of what will be accomplished at future meetings the result of this congress is full of promise. There will be a second meeting of this congress two years hence in Brussels.

F. H. W.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 24, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	769	355	28.86	11.70	19.50	2.60	2.60
Philadelphia	1,040,245	426	202	18.63	8.75	11.73	4.14	.92
Chicago	830,000	436	239	34.04	9.20	22.77	3.45	5.52
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	200	90	28.00	8.00	18.00	6.00	2.50
St. Louis	450,000	155	63	17.55	6.46	7.80	5.85	2.60
Boston	413,567	235	88	30.10	5.59	17.20	4.26	6.02
New Orleans	250,000	—	—	—	—	—	—	—
Cincinnati	225,000	115	—	32.19	10.44	12.18	5.22	10.44
Washington	225,000	125	61	28.80	6.40	15.20	5.60	3.20
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	—	—	—	—	—	—	—
Charleston	60,145	60	27	16.66	6.66	9.99	4.99	—
Portland	40,000	18	9	22.22	11.11	22.22	—	—
Worcester	78,292	29	15	37.95	13.80	31.05	3.45	—
Lowell	71,518	50	29	40.00	12.00	28.00	2.00	6.00
Cambridge	65,552	25	13	40.00	12.00	28.00	4.00	4.00
Fall River	62,647	41	26	31.16	7.32	29.28	2.44	2.44
Lynn	53,334	18	0	—	5.55	—	—	—
Springfield	40,731	8	5	—	—	—	—	—
Lawrence	40,619	28	10	—	—	—	—	—
New Bedford	37,253	23	13	—	—	—	—	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	16	8	18.75	6.25	12.50	—	6.25
Brockton	28,813	—	—	—	—	—	—	—
Chelsea	28,167	—	—	—	—	—	—	—
Haverhill	26,058	16	7	12.00	12.50	6.25	—	—
Taunton	25,170	16	4	18.75	12.50	12.50	6.25	—
Gloucester	24,263	8	3	20.00	—	20.00	—	—
Newton	21,553	5	0	—	—	—	—	—
Malden	19,774	9	2	33.33	22.22	11.11	11.11	—
Fitchburg	17,534	10	3	20.00	—	20.00	—	—
Waltham	17,332	5	2	40.00	—	20 00	—	20.00
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	9	2	22.22	11.11	22.22	—	—
Quincy	13,728	8	3	37.50	25.00	25.00	—	12.50

Deaths reported 2863: under five years of age 1279; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas, and fevers) 842, consumption 270, acute lung diseases 145, diarrhœal diseases 504, typhoid fever 109, diphtheria and croup 99, whooping-cough 30, malarial fever 16, cerebro-spinal meningitis 12, scarlet fever 10, measles 7, erysipelas 5. From whooping-cough, New York 16, Chicago 4, Philadelphia and Boston 3 each, Cincinnati Lowell, Cambridge, and Malden, 1 each. From malarial fever, New York 8, Washington 3, Baltimore 2, Philadelphia, Boston and Charleston, 1 each. From cerebro-spinal meningitis, Washington 3, New York, Chicago and Cincinnati 2 each Boston, Worcester and Gloucester 1 each. From scarlet fever, New York, Philadelphia, Chicago and St. Louis 2 each, Baltimore and Lowell 1 each From measles, Chicago and Cincinnati 2 each. New York, Boston and Haverhill 1 each. From erysipelas, New York 3, Philadelphia 2.

The meteorological record for the week ending Aug. 24, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending Saturday, Aug. 24, 1889.	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.		Velocity of Wind.		State of Weather.[1]		Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ..18	30.06	67.0	76.0	58.0	76	66	71.0	W.	W.	5	7	C.	C.		.0
Monday, ..19	30.03	68.0	79.0	58.0	74	72	73.0	W.	W.	11	9	C.	O.		.0
Tuesday, ..20	29.95	72.0	80.0	65.0	81	72	76.0	N.W.	S.E.	11	2	F.	C.		.0
Wednes. ..21	29.93	71.0	77.0	65.0	65	72	68.0	N.W.	S.	4	10	C.	C.	0.15	.T
Thursday, .22	29.88	76.0	82.0	69.0	70	59	74.0	W.	W.	12	8	C.	C.		.0
Friday, ...23	30.04	70.0	77.0	63.0	63	71	67.0	W.	S.E.	4	4	O.	O.		.0
Saturday, .24	30.12	65.0	68.0	62.0	95	100	98.0	N.E.	S.E.	2	4	R.	G.	12.00	.39
Mean for Week.	30.00		77.0	63.			75.0							12.15	.39

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

SOCIETY NOTICES.

ASSOCIATION OF AMERICAN PHYSICIANS. — Programme of the Fourth Annual Meeting, to be held in the Medical Museum and Library, corner of Seventh and B Streets, Washington, D. C., September 18th, 19th and 20th, 1889.

Wednesday, September 18th. — Morning Session, 10 A. M. (1) The President's Inaugural Address. Francis Minot, Boston. (2) General Business. (3) The Early Stage of General Paralysis. C. F. Folsom, Boston. (4) Tetany. James Stewart, Montreal. (5) Tetany and a New Theory of its Pathology. John T. Carpenter, Pottsville.

Afternoon Session, 2.30 P. M. (6) Thrombosis of the Cerebral Sinuses and Veins. A. B. Ball, New York. (7) Chylous Effusions into Serous Cavities. S. C. Busey, Washington. (8) Substitutes for Opium in Chronic Diseases. J. F. A. Adams, Pittsfield. (9) Remarkable Case of Slow Pulse. D. W. Prentiss, Washington.

Thursday, September 19th. — Morning Session, 10 A. M. (10) Discussion on the Relation between Chlorosis, Simple Anæmia, and Pernicious Anæmia, including Leucocythæmia and Hodgkins' Disease. Referee, Frederick P. Henry, Philadelphia; Co-Referee, F. Forchheimer, Cincinnati. (11) Primary Cancer of the Duodenum. E. N. Whittier, Boston. (12) Primary Cancer of the Gall Bladder and Ducts. John H. Musser, Philadelphia. (13) Gastric Neurasthenia. G. M. Garland, Boston

Afternoon Session, 2.30 P. M. (14) Specimens from two Cases of Cretinism. W. F. Whitney, Boston. (15) The Anatomical and Physiological Relations of Lesions of the Heart and Kidneys. H. F. Formad, Philadelphia. (16) The Contagium of Diphtheria. P. Gervais Robinson, St. Louis. (17) A Supplementary Inquiry into the Frequency with which Lead is found in the Urine. James J. Putnam, Boston.

Friday, September 20th. — Morning Session, 10 A. M. (18) General Business. Report on Nomination of Officers and Members. (19) Discussion on the Relations of Rheumatism to Rheumatoid Arthritis; Referee, William Osler, Baltimore; Co-Referee, Morris Longstreth, Philadelphia. (20) How Far may a Cow be Tuberculous before the Milk becomes Dangerous as a Food Supply? Harold C. Ernst. Jamaica Plain. (21) The Bacillus Tuberculosis. J. T. Whittaker, Cincinnati. (22) Hot Air Inhalations in Tuberculosis. E. L. Trudeau, Saranac Lake. (23) Concluding Business.

On Thursday evening it is proposed that the Association shall have an Annual Dinner. Definite information concerning this dinner will be given at the morning session of Wednesday.

AMERICAN GYNECOLOGICAL SOCIETY. — Programme of the Fourteenth Annual Meeting, to be held in the Massachusetts Institute of Technology, Boylston Street, Boston, September 17, 18, and 19, 1889. Physicians are cordially invited to be present.

First Day. — Morning Session at 10 o'clock. Roll-call, Reception of Guests, etc. Address of Welcome. Dr. J. P. Reynolds, Boston. (1) A Case of Interstitial Pregnancy — Rupture of the Uterus and Laparotomy. Dr. R. S. Sutton, Pittsburg. (2) The Use and Abuse of Antiseptic Injections in Obstetric Practice. Dr. H. J. Garrigues, New York. Discussion to be opened by Dr. Fordyce Barker. (3) A Digest of Twenty Years' Experience in the Treatment of Cancer of the Uterus by Galvano-Cautery. Dr. John Byrne, Brooklyn. Discussion to be opened by Dr. Reeves Jackson. Afternoon Session at 3 o'clock. (4) The Nature and Limitation of Operative Treatment for Uterine Fibroids. Dr. P. F. Mundé, New York. (5) The Diagnosis and Treatment of Fibroid Tumors. Dr. W. Gill Wylie, New York. The discussion of these two papers will be opened by Dr. T. A. Reamy, Cincinnati. (6) A Case of Sloughing Intra-Uterine Fibroid. Dr. E. Van de Warker, Syracuse. Discussion to be opened by Dr. S. C. Gordon.

Second Day — Morning Session at 10 o'clock. (7) A Case of Abdominal Lipoma Simulating Ovarian Tumor. Dr. Reeves Jackson, Chicago. Discussion to be opened by Dr. Wm. T. Howard. (8) The President's Address. Dr. H. P. C. Wilson, Baltimore. (9) Electro-Therapeutics in Gynecology. Dr. G. Apostoli, Paris. Discussion to be opened by Dr. A. J. C. Skene. (10) Death from Visceral Lesions following Ovariotomy. Dr. H. C. Coe, New York. Discussion to be opened by Dr. H. Marion-Sims. Afternoon Session at 3 o'clock. (11) Renel Disease, caused by the Disease of the Pelvic Viscera. Dr. George J. Engelmann, St. Louis. Discussion to be opened by Dr. H. J. Kelley. (12) Pelvic Congestions *vs.* Pelvic Inflammations. Dr. S. C. Gordon, Portland. Discussion to be opened by Dr. T. A. Emmet. (13) The Relation of Uterine Retro-Deviation to Pregnancy. Dr. A. Martin, Berlin. Discussion to be opened by Dr. P. F. Mundé. (14) Nephro-Lithotomy. Dr. James R. Chadwick, Boston. Discussion to be opened by Dr. C. C. Lee. Evening Session at 8.30 o'clock. Business Meeting with closed doors.

Third Day. — Morning Session at 10 o'clock. (15) Results of Repression of Menstruation, Dr. E. C. Gehrung, St. Louis. Discussion to be opened by Dr. E. W. Jenks. (16) Intermediate Trachelorraphy, Dr. H. J. Boldt, New York. Discussion to be opened by Dr. Bache Emmet. (17) A Contribution to the Clinical History of Cystic Degeneration of the Ovaries, — with a Report of Cases and Specimens, Dr. R. B. Maury, Memphis. Discussion to be opened by Dr. W. M. Polk. (18) Partial Rotation of the Ovum in early Pregnancy as a Cause of Placenta Praevia. Suggested by two cases in Practice, Dr. E. W. Sawyer, Chicago. Discussion opened by Dr. A. F. A. King. (19) The Protective Influence of Vaccination during the Intra-Uterine Existence of the Fetus, Dr. C. Kollock, Cheraw, S. C. Afternoon Session at 3 o'clock. (20) The Value of Laparotomy in the Diagnosis and Treatment of Minor Forms of Intra-Abdominal and Intra-Pelvic Disease, Dr. T. A. Ashby. Baltimore. Discussion to be opened by Dr. A. W. Johnstone, Kentucky. (21) A Brief Report of my own Abdominal work, for the year ending September 1, 1889, Dr. R. S. Sutton, Pittsburg. Discussion opened by Dr. E. C. Dudley. (22) The Surgical Treatment of Posterior Displacement of the Uterus. Dr. W. M. Polk, New York. Discussion to be opened by Dr. W. M. Baker. (23) The Effect of Ergot upon the Parturient Uterus, Dr. John Goodman, Louisville, Ky. (24) In Memoriam. — Dr. J. B. Hunter, New York. Dr. H. C. Coe, New York. (25) In Memoriam. — Dr. Ellwood Wilson, Philadelphia. W. H. Parish, Philadelphia.

OBITUARY. EDWARD G. UFFORD, M.D., M.M.S.S.

Dr. Edward G. Ufford, who was nearly eighty-eight years old, died in his home in Agawam, August 25th. He was born in East Windsor, Conn. in November, 1801. He was a graduate of the Yale Medical School, in 1845, and began practice in West Suffield, since then having practiced in South Hadley, West Springfield, and Agawam. For years he had been a member of the Hampden County Medical Society, and was formerly president of the Hampshire. He lived in South Hadley twenty-two years, and was one of the original corporators of the Seminary. He was one of the oldest Masons in the Connecticut Valley, having joined the order in 1825.

BOOKS AND PAMPHLETS RECEIVED.

McGill University, Montreal. Annual Calendar. Faculty of Medicine. Fifty-seventh Session, 1889-90.

Original Articles.

PARTIAL TENOTOMIES IN CASES OF NEURASTHENIA, WITH INSUFFICIENCIES OF THE OCULAR MUSCLES.[1]

BY MYLES STANDISH, M.D.,
Ophthalmic Surgeon, Carney Hospital; Assistant Ophthalmic Surgeon, Massachusetts Charitable Eye and Ear Infirmary; etc.

THE ordinary symptoms of an error of refraction are well known, and are grouped under the descriptive title of Asthenopia; they consist of blurring of print, smarting of the lids, pain in the eyes and orbits, a heavy, dull pain in the temples or over the brows, and are often accompanied by occasional prostrating sick-headaches. All of these symptoms are aggravated upon any attempt to do near work, and some are relieved by the cessation of such work. There is no mistaking the cause of such a group of symptoms. The act of accommodation is evidently the source of the difficulty.

In normal eyes asthenopia is never felt until the accommodation has been sufficiently lost by the natural course of events to make near work difficult. In the hypermetropic eye (the short eye), on the contrary, asthenopia may appear very early in life. We do not have to search far to find a reason for this. Such a short eye, in order to focus a picture of a near object upon its retina, must do all the work that the normal eye does, plus the amount of its error. Moreover, such an eye must accommodate in order to see distant objects distinctly. Hence the constant strain and consequent fatigue. Astigmatism also is a common source of asthenopia, the cause of the nervous disturbance being, in this case, not so much due to the amount of labor put upon the ciliary muscle, as to the character of the work.

In an ordinary case of asthenopia, with all the symptoms present, the diagnosis, as I have said, is easy; but when the headache becomes very prominent, and the other symptoms are very slightly felt, or are not present at all, and especially when the headache does not appear until some hours after the use of the eyes, which has originated the nervous disturbance, then the diagnosis is not so apparent. To this class belong the large majority of school-children who have violent sick-headaches at frequent intervals; the many professional men who find it necessary to drop all work, and go off on short vacations every few months, and who return from such short trips with an improvement in mental and physical conditions which seems out of all proportion to the length of the vacation. To this class also belongs the business-man who spends his Sundays reading books and newspapers, and who invariably has a headache Monday morning. Herein lies the value of the change of scene, so advantageously prescribed by physicians in cases of physical depression of obscure origin. I believe that mere change of scene never improved a man who habitually lead an out-of-door life.

As I have implied above, refractive headaches bring in their train great impairment of mental and physical vigor. The dull, heavy pain in the head, accompanied as it generally is by a constant sense of fulness, is, in itself, very depressing; and when to this is added the occasional sick-headache, the result is a feeling of lassitude which is never absent so long as the use of the eyes is continually adding to that load already too great for the nervous system to carry.

Headaches and neurasthenic conditions are often much mitigated by the correction of errors of refraction when the starting-point of the reflex process is not in the eyes, but in the digestive or reproductive tract. In these cases the relief from the additional nervous irritation, caused by the strain upon the ciliary muscle and its auxiliaries, will reduce the severity of an habitually prostrating sick-headache to a so much milder form of cephalgia that the patient can go about and attend to his duties. The relief from the physical depression consequent upon such repeated prostrations may go far toward making successful the treatment of the original cause possible.

The treatment of an error of refraction is, of course, to place before the eye such a lens as will enable it to do its work with no more labor than would be required by a normal eye. The effect of such a lens is often marvellous. As soon as the eyes become accustomed to the new conditions, the headaches disappear entirely, together with irritability, choreic-like movements of the hands or head, and many obscure sensations and pains, previously referred to various causes. The patient, from being very nearly an invalid, is transformed into a well man, and is enabled to do his daily task with but a tithe of the accustomed fatigue. He is enabled to go to the theatre without paying the penalty of a headache the following morning, although the headache had always been attributed to the bad air of the theatre. He finds that he can do with impunity many other things which before always exhausted him, such as travelling on the railroad, visiting picture-galleries, etc. In short, he finds his general vigor and health much improved. In order to do away with the refractive strain in these neurasthenic cases, it is absolutely necessary that the correction of the error should be perfect, and that the lenses should be set in the frames with mathematical accuracy. If an incorrect lens is prescribed, or a cylindrical lens is set so that the axis is not correct, we have created an artificial astigmatism which is, when the glasses are worn for any length of time, as disastrous as the original error; although I have seen an incorrect lens give relief, apparently through doing away with the accustomed form of irritation, and to continue to so give relief until the cumulative effect of the fatigue from the new source of error was sufficient to develop the whole train of symptoms anew.

There is a certain class of cases in which the use of the eyes seems to stand as the direct cause of extraordinarily severe headaches, frequently accompanied by a condition of nervous prostration which utterly unfits its victims for the duties of life, yet when the errors of refraction are corrected only partial relief is obtained, and that not enough to be of material benefit. The direct relationship between the use of the eyes for near work and the most tremendous outbreaks of cephalgia and general nervous disturbance would seem to point to the eyes as in some way the direct precipitating cause, yet, as I have said, correction of refraction in the most careful manner utterly fails to give the relief we expect.

This class of cases is explained of late by attributing the cause to eye strain arising from an insufficiency of one or more of the recti muscles. This explanation has a *priori*, many arguments in its favor. It is but

[1] Read at the meeting of the American Ophthalmological Society, July, 1889, to which is added a few introductory remarks.

natural to suppose that in the case of any abnormality in the strength of the recti muscles there should be as much difficulty and fatigue experienced in maintaining binocular vision as there is in keeping the eyes constantly accommodated for distant vision in an error of refraction. The ciliary muscle and the recti muscles have to a great extent the same nerve supply, and it would seem that a reflex irritation would be as easily obtained from one source as the other. The confusing effect of slight diplopia associated as it is with ocular vertigo is well known.

Although this source of reflex irritation would seem so probable but very little has been done by ophthalmologists for the treatment of these difficiencies of the ocular muscles. An occasional pair of prisms has been ordered and their continual use has generally proved unsatisfactory, or at rare intervals a tenotomy of the overbalancing muscle has been performed. As a rule, however, no treatment for the inequality of the muscular balance has been attempted. Within a few years Dr. G. T. Stevens has proposed that as prisms did not accomplish the hoped for result in these cases, it was logical and proper to adopt operative interference and proposed an operation similar in character and method to a strabismus operation with the exception that the tendon of the overbalancing muscle was only partially severed from the globe, and the portion cut was only the central portion of the insertion, leaving the outer edges of the tendon intact.

The results obtained by this operation have been loudly extolled by Dr. Stevens and a few enthusiastic followers. It has been claimed by them that the eye strain in cases of illy balanced ocular muscles was responsible to a very large extent for all varieties of functional nervous disturbance. Not only were severe headaches and neurasthenia cured by this operation, but also neuralgia, chorea, epilepsy, and insanity. One writer in a recently published work on nervous diseases goes so far as to credit this operation with the cure of a case of chronic dyspepsia. The extravagance of these claims has undoubtedly prejudiced many gentlemen against the operation, and as a result, this method of treatment has not been generally accepted. Many have urged theoretical reasons why this particular form of operation should not accomplish the mechanical result desired, but as yet very few have actually tried the operation and reported the results.

In this state of affairs the question can only be settled by the public record of the experiences of different operators, and that is my reason for reporting this short series of cases.

With cases of chorea, epilepsy, insanity, dyspepsia, etc., I have had no experience. My patients have all been persons invalided by constant and severe headache, accompanied by a more or less neurasthenic condition which has utterly incapacitated them for their duties in life. The condition of such patients is truly deplorable, the victims of a constant dragging headache which increases to intolerable torture if they stir abroad or use their eyes for reading or any near work at home. They retire at night greatly fatigued, and arise in the morning with an aching head and burning eyes. This condition of affairs goes on for years, and the patient becomes a petulant, peevish, suffering invalid. Every practitioner of medicine has sooner or later found himself utterly helpless in the face of such a situation, and if it is possible by the relief of the strain caused by unbalanced ocular muscles to so lighten the load of nervous irritation, under which the patient is struggling, as to give him a practical cure of his asthenopia and neurasthenia, it is a possibility that should be thoroughly investigated.

It is true that very many such cases are entirely cured by the proper correction of errors of refraction, but a certain proportion of cases are relieved only for a short time by the lenses, and if tested will be found to have marked ocular insufficiencies.

The methods of examination as yet devised for the examination of the recti muscles are rather crude and inaccurate. The methods are two: —

First. In examining for the condition of the internal and external recti, for instance, a vertical diplopia is artificially produced by placing a prism before one eye with its base up. A lighted candle is placed at twenty feet in a darkened room. Then if one image of the candle flame is directly over the other the muscles are said to balance, but if there is a lateral displacement there is said to be an insufficiency. A similar test with a prism base in gives the balance of the superior and inferior recti. The measure of the amount of the insufficiency is obtained by placing prisms with their bases at right angles to that of the prism producing the diplopia, and recording the number of degrees required to place one image over the other. The variation at successive examinations in the number of degrees required to make the diplopia vertical in this test is sometimes very great. This is no doubt partly due to inherent difficulties in the method of examination which produce faulty observations, but I am sure that it is to a greater extent due to the physical condition of the patient at the time of the examination. If fatigued and exhausted a greater amount of insufficiency will be manifested than if the head is clear and the physical condition good.

Second. The practical strength of the muscles to fuse diplopic images into one, when such images are artificially produced, by placing a prism before the eyes with the base up or down, or in or out.

Theoretically one would suppose that these two tests would supplement and confirm each other, but practically I have often found this not to be the case at any single sitting. In fact, the results of these examinations of the ocular muscles are often exceedingly confusing, and vary greatly from day to day. It is customary to explain this variation by saying that the patient acquires the trick, after a while, of using his muscles under these new conditions, and so the different results are simply a record of the proficiency acquired in this new form of gymnastics. This explanation is to a certain extent true, and accounts, no doubt, for the much higher result obtained by the second method of examination after it had been repeated several times. It fails, however, to explain all the variations obtained, especially the results obtained by the first method of examination.

Recognizing the difficulties of accurate diagnosis by these methods of examination, it has been my practice to order prisms with the bases in the proper direction, to alleviate any strain that might be present from the supposed insufficiency as shown by these tests; to have them worn continuously for a longer or shorter period and see if any alleviation of the symptoms followed. I have a number of times confirmed myself

in my opinion by reversing the prisms, and finding that with this change the symptoms were aggravated.

With these introductory remarks I will now report five cases which I have abstracted from my records, and which constitute the entire number of such cases upon which I have operated.

Case 1. First seen by me August 11, 1887. B. H. R., clergyman, thirty-one years of age. A man of healthy appearance and robust stature. Has had asthenopia for six or seven years and has been treated by several gentlemen distinguished in the profession. Glasses, Dyer's method of progressive use of eyes, etc., have been prescribed without relief. The last two years the headache from the use of eyes has increased so that he has been obliged to give up all reading, and now the least excitement prostrates him with a headache. He cannot go down town, ride in the horse cars or make a social call, except in the dark, without precipitating a violent headache. Has been obliged to give up his duties on account of his infirmity, and for eighteen months has been almost an invalid. Cannot read over two pages without being obliged to stop on account of the pain. V. O. U. $\frac{12}{x}$. Ophthalmoscopic examination entirely negative. Overcame prisms today when looking at a lighted candle at a distance of twenty feet, four degrees with the base up or down — eight degrees with the base in, and twenty-five degrees with the base out.

Græfe's vertical diplopia test, with same object and distance, showed a state of muscular equilibrium. In a state of accommodation when one or the other of the eyes is covered, it apparently converges a little. On August 22d, after a week's use of a solution of atropine and cocaine in each eye, there appeared a hypermetropia of 0.50 Diopters in each eye; but the muscles overcame prisms only to the following extent when tested as before, — three degrees base up or down, six degrees base in, twelve degrees base out. Vertical diplopia test, as before, requires three degrees, base out, to place one image over the other. The inconsistency of this examination is obvious. If the ability of the muscle to overcome prisms is of any value as measuring the strength of the muscles, the above examination shows an insufficiency of the internal recti. If, on the contrary, the Græfe vertical diplopia test is of any value when applied as above, then there is an insufficiency of the external recti.

These examinations were repeated at intervals of four or five days until October 3d. The results, with regard to the ability to overcome prisms, was not found to vary much as to the vertical muscles, but the lateral muscles varied very considerably. When the base of the prism was placed toward the nose, the eye could fuse the images some days with eight degrees before one eye, another day three degrees would give permanent diplopia. With the base turned outward, the variation ran from twelve degrees to twenty-one degrees.

The vertical diplopia test, however, remained pretty nearly constant, requiring four degrees to five degrees base out, to place one image over the other. On October 3d, prisms were ordered two degrees base out, before each eye for constant use. October 22d, the patient reports that his eyes feel much better. Has left off his blue glasses which he had worn for eighteen months, and wears only the prisms without experiencing any photophobia. Has read an hour at a time. Has considerable headache still. I then reversed the prisms, placing their bases in, and on November 14th he reports that his eyes have been extremely painful. Has not been able to read any; headaches have returned with redoubled violence, and is obliged to lie down in a darkened room most of the time. The ability of the muscles to overcome prisms, when tested under these conditions, did not seem to stand in any relationship to the manner in which the prisms were worn, as for instance, when the prisms had been worn base in, on one occasion, the eyes overcame twenty-one degrees base out, and on another, twelve degrees, exactly as happened when the prisms were worn with their bases out. On the other hand, during this period if tested by the vertical diplopia test, the equilibrium was found to be perfect, which would seem to show that the added muscular exertion required to overcome the prisms worn (four degrees bases in), continued after they were removed, and exactly counteracted the natural insufficiency of the externi. The prisms were replaced with their bases out for distant use; and I ordered +0.50 D. combined with prism one degree base out, O. U. for near use.

With these glasses his headaches were much relieved. He was able to read to a limited extent, and could go about without the great fatigue or the neurasthenic symptoms which of late had attended all exertion. The eyes were examined from time to time after the prisms had been replaced with their bases out, with somewhat varying results as to ability to overcome prisms, but with an average about as follows, — three degrees up or down, eight degrees base in, and twenty-one degrees base out. Such a condition of the muscles as the above average would indicate is about the normal standard, I believe, except, perhaps, that twenty-one degrees is rather low for the limit of power of the internal rectus. The Græfe test required five degrees base out for vertical images. This latter test, together with the fact, that, if he omitted wearing his glasses for several hours, he invariably had a headache, determined me in my diagnosis of an insufficiency of the external recti. A partial tenotomy of the tendon of the internal rectus of one eye was proposed with the idea of restoring the muscular equilibrium.

The operation was promptly accepted; and on May 21, 1888, Dr. W. D. Hall being present, I cut about three millimetres of the centre of the tendon of the left internal rectus at its point of insertion. Two days later the patient reported that he had omitted the prisms since the operation, and that his head had not felt so well for six or seven years. Has walked two miles to my office without fatigue. Felt like a new man. Had tried to read with his prisms, but found that they made his eyes water and that he could read quite well without them, Overcame prisms four degrees base up or down, — nine degree base in, and nineteen degrees base out. Vertical diplopia test showed an equilibrium.

On July 6th, reports that several weeks ago he resumed his clerical duties and could do them without fatigue. Has resumed the use of prisms for reading, otherwise goes without them. Can read two or three newspapers through without fatigue. Reads several hours daily. On December 11th, I found that one degree base out was necessary for equilibrium with the vertical diplopia test at a distance of twenty feet. This condition has remained up to the present time, and on May 8, 1889, the gentleman says that he

never has headaches, that while his eyes do not admit of constant near work without fatigue, he is able to do all his work and some collateral reading. This report only lacks a few days of a year from the date of the operation, during which period he has had absolutely no treatment.

I have reported this case somewhat fully, in order to illustrate the difficulties of an accurate diagnosis, but the remaining four cases I will report in a somewhat briefer form.

CASE II. M. M., female, aged forty-two, teacher by occupation. She was first seen by me in June, 1887, complaining of asthenopia. Manifest hypermetropia found of 0.75 D. For reading, found that 2 00. D was necessary to give comfort. I ordered these glasses. The patient returned to me in May and June, 1888, complaining that she could only do her work with the greatest difficulty, on account of the pain in the head and eyes, and that the smarting of the lids was something extreme; and, as there was a distinct conjunctivitis, treatment by astringents was instituted, but this failed to give relief. The eyes were examined under homatropine, and hypermetropia of 2.00. D. O. U. found. The muscles overcame prisms two degrees base up or down, three degrees base in, and twenty-one degrees base out. Vertical diplopia test, at twenty feet, required two degrees base out. Ordered more persistent use of glasses and continual treatment of lids.

Although not teaching at this time, the patient's condition became gradually worse. Head ached most of the time. Pain in the eyes always present. Complained greatly of many rather fugitive pains. Was always greatly fatigued, and incapacitated from doing even her household duties. At my suggestion she was examined by her physician, who reported that the only cause he could find for her condition was overwork.

Her eyes were examined from time to time, and the ability to overcome prisms was found to be as follows: two degrees base up or down, three degrees base in, and twenty-five degrees base out. This condition remained pretty constant during the four months from June to November. The amount required to place one image over the other in the vertical diplopia test varied from two degrees to five degrees base out.

As the patient was now unable to attend to her duties, and seemed to be rapidly descending into a condition of nervous prostration, a partial tenotomy was advised and accepted. The operation was done November 13, 1888.

The operation was partial tenotomy of the internal rectus of the right eye. The insertion of the tendon was severed, so that the merest shred was left. When the operation was finished the divergence was quite marked, and diplopia was present. Eight hours after the operation, the visible divergence still persisting, and as the patient said all objects "looked funny," I thought best to approximate the edges of the cut in the tendon by a suture that was drawn up until I could see no divergence.

The operation was followed by considerable relief of the general fatigue; could work about the house. Headaches much relieved. There was still some pain in the eyes, however.

Examinations for the two weeks after the operation showed an ability to overcome prisms of two degrees base up or down, five degrees base in, and twenty-one degrees base out. Graefe test for distance required a prism of three degrees base out.

This patient has been able to do her work since the operation without fatigue, and her general condition is much improved. There is still considerable complaint of the eyes, It seems to me probable that we should have had a better result if I had drawn my corrective stitch less tightly.

CASE III. Mrs. R. W. B., fifty-one years of age, was referred to me by Dr. E. H. Bigelow, of Framingham. She gave the following history at her first visit on August 3, 1888: "Four years ago had an illness which was marked by pain in the region of the heart and hyperæsthesia. Said to have been accompanied by marked dimness of vision. During the attack light and sounds were extremely annoying." Has never been well since. Has headache pretty much all the time. Headache severe enough to incapacitate her from doing anything, and much worse upon any attempt to do near work. There is a constant sense of fulness in the head, accompanied by a feeling of extreme lassitude. The eyes are sore and painful, and patient dreads to move them about. Has worn dark glasses for two years. Patient kept the eyes closed most of the time when talking, and when asked why she did this, said it relieved the distressed feeling. Sensation of fatigue in eyes present upon first awakening in the morning. The slightest excitement, or the shortest railroad journey, brings on a violent headache, that confines the patient to her room for several days.

Upon examination, the condition of the eyes was found to be as follows: V. O. U. $= \frac{14}{x}$ not improved by any lens The muscles overcame prisms of two degrees base up or down, seven degrees base in, and eight degrees base out. Graefe vertical diplopia test, with a candle at twelve feet in a darkened room, showed muscular equilibrium at twelve inches; the same test required five degrees base in to bring the images vertical.

I advised, for experiment, a prism of two degrees base in before each eye for constant use. On August 27th, the patient reported that the prisms had given much relief to the ocular symptoms, but that otherwise she was about the same. Muscle test at this visit showed a power to overcome prisms of two degrees base up or down, eleven degrees base in, and eight degrees base out. The vertical diplopia test required, at twelve feet, three degrees base in; and, at twelve inches, seven degrees base in.

The bases of the prisms were then reversed, and upon September 14th, the patient reported that all her symptoms were much worse, as indeed her excitable manner during her visit plainly showed. This excitable condition produced a somewhat startling change in the tests with the prisms; for that day she overcame three degrees base down, four degrees base up, seven degrees base in, and *twenty-eight* degrees base out. The vertical diplopia test at twelve feet as before, required six degrees base *out*. Nevertheless, a partial tenotomy of the external rectus of the left eye was proposed, which was subsequently accepted, and on October 13th, I operated on the external rectus of the left eye. Cocaine was used. I cut the central third of the insertion of the tendon which was rather broad. An hour subsequently to the operation the vertical diplopia test showed equilibrium of the muscles for distance.

On November 14th, the patient reported that for two weeks following the operation she had felt perfectly well. Could not remember feeling so well since a child. Had attended some private theatricals and gone about very considerably. Since then the use of the eyes for near work had given some discomfort, and if long continued was followed by severe headache. She considers herself well by comparison. Has no sense of fulness in the head. The weariness had disappeared. Does not dread to look at people or to move the eyes as formerly. The eyes are now rested in the morning. Has no headaches except upon long-continued near work.

Prism tests of the muscles showed ability to overcome three degrees base up or down, nine degrees base in, and twenty-eight degrees base out. The vertical diplopia test at twenty feet required three degrees base in. I prescribed prisms one degree base in, before each eye, for near work.

December 19th, patient reported as follows: Has been very well, much better than ever before. Does not feel absolutely strong, and has a feeling as if it would be possible to overwork herself, if she was not somewhat cautious.

In February I wrote to Dr. Bigelow a letter of inquiry, and received the following reply: "Mrs. B. is very much improved in her general health since your treatment of her eyes. She seems like another person now, as I meet her. She certainly appreciates highly the help you have given her."

CASE IV. Mr. W. B. N., twenty-seven years, student, married. Was first seen by me on September 22, 1888. Patient was a large, athletic-looking man, and in flesh and color appeared to be a well man. The history was, that ten years or more ago patient "broke down" during his college course; at this time he was troubled with occasional diplopia. Dr. Agnew was consulted in New York, and said that there was insufficiency of the interni; prescribed prisms, and hinted at a possible operation on the eye muscles. The prisms were worn a short time with relief, and were finally omitted on the advice of another eminent ophthalmologist. Within a few years his eyes had been examined under atropine, and Cyl. + 1. 00. D., axis vertical O. U., ordered for reading. Patient has had four years of nervous prostration. Has been better the last six months. Has used eyes more than usual of late. Still has many nervous symptoms, and is obliged to rest much, and to devote much time to sleep, if he would feel at all well. Two weeks ago he began to walk unsteadily. Saw double when he arose in the morning. Has been nauseated by this diplopia. Diplopia has continued of late for three-quarters of an hour after arising. Can ordinarily have diplopia or not at will. Of the false images in the morning, one was above the other, and some distance to one side. Diplopia crossed.

The power of the muscles to overcome prisms was as follows: one degree base down, four degrees base up, six degrees base in, and fifty degrees base out, This latter result was accomplished by blurring the image, and it is probable that the accommodation was exerted to its fullest extent in the attempt to overcome the prism. Graefe vertical diplopia test twelve feet, showed equilibrium of muscles.

After two days of complete rest the muscle tests were as follows: Overcame prisms, two degrees base up, two degrees base down, seven degrees base in, fifty-nine degrees base out. Graefe vertical diplopia test required five degrees base in, for equilibrium. Ordered prisms two degrees bases out for trial.

September 29th, patient reported that the glasses had nauseated him, and aggravated all his symptoms. The prisms were reversed, and on October 6th, the report was that the glasses had given relief to the eyes, but that other symptoms were the same.

After this, many variations of the prisms were tried, with bases up, down, etc., with rather indecisive results as to the vertical recti, but a pretty constant evidence of insufficiency of the internal recti, and on November 17th, I did a partial tenotomy of the external rectus of the left eye. The central transverse incision of the tendon was not over two millimetres. On November 28th, the patient's statement of his condition was, "Have had to go back to the two degree prisms bases in, but with them, am much better off than before with three degrees or four degrees."

On December 1st, I did a partial tenotomy on the external rectus of the right eye. This operation still left, when entirely well, an insufficiency of the internal recti; and although at first it apparently gave considerable relief, the patient has gradually fallen back into his previous condition.

An operation on one of the vertical muscles was not accepted; and on April 12th he wrote me in response to an inquiry: "I am somewhat dependent upon the cylindro-prismatic glasses; I still seem to have about six degrees of lateral insufficiency; health has been about as wretched as usual."

CASE V. — G. P. H., forty-four years, clergyman, married. Seen by me on November 17th, 1888, and gave the following history: First broke down five years ago. Is said to have had nervous prostration. His condition has varied from time to time, but of late has steadily grown worse. Cannot attend to his duties, cannot read, sleeps very poorly. Is troubled much by pain in the forehead and back of the neck. Has sensations of weakness. If he attempts any work, has a nervous feeling or thrilling, which alarms him and incapacitates him for proceeding. Has a constant feeling of fatigue in the head. Has had two attacks of vertigo, after straining his eyes, which entirely disappeared upon closing the eyes. When he first began to preach, stammered, and overcame the fault with difficulty.

V. O. U. $= \frac{20}{xv} +$ Vertical diplopia test, at twenty feet, required prism one degree base out, to place images vertical. Muscles overcame prisms of four degrees base up, three degrees base down, four degrees base in, twenty degrees base out. Ophthalmoscopic examination revealed nothing abnormal.

Has worn, by advice, + 60 inch lens O. U. for reading, for the last few months. Advised prisms two degrees base out for constant use, for diagnostic purposes.

The gentleman returned to me on December 1st, and said that he had been very much relieved by the glasses. Had used his eyes freely. Headaches and other pains very considerably diminished.

Graefe vertical diplopia test showed an insufficiency of six degrees of the externi; and the muscles overcame a prism of four degrees base up, three degrees base down, eight degrees base in, and sixteen degrees base out, showing once more the inconsistency of these two tests, which are supposed to prove the same thing.

The glasses were then reversed; and four days later the patient reported that he could read very well with the prisms placed bases in, but that all his nervous symptoms, such as fatigue and distress in the head, had returned with their accustomed sequelæ.

The prisms were again placed bases out, and gave immediate relief. He was enabled to do some literary work, and did not become so exhausted upon slight effort. He was kept under observation for nearly eight weeks, and tested frequently. The relief afforded by the prisms, which was so marked at first, gradually diminished until, in the latter part of January, the eyes ached at night very considerably, and the patient was obliged to relinquish all work on account of the general symptoms. During this period the muscle tests ran pretty uniformly, as follows: Prisms overcome, at a distance of twenty feet, two degrees base up or down, six degrees base in, twenty-two degrees base out. Vertical diplopia test required five degrees base out, to place images vertical.

On February 2d, 1889, I did a partial tenotomy of the internal rectus of the left eye. About four to five millimetres of a very broad insertion were cut. Operated under cocaine. An immediate trial with candle and red glass showed a crossed diplopia. In five minutes, however, it had disappeared. The operation was not immediately followed by any gain, except that dizzy sensations in the head, to which he had before been subject, had entirely disappeared. Twelve days after the operation the Graefe vertical diplopia test showed muscular equilibrium.

On March 2d, patient reported that he felt distinctly better. His eyes were comfortable; his neuralgias had disappeared; he had no dizzy spells or trembling attacks; and, to judge by his face and general appearance, one would say that he was evidently much better.

In response to a letter of inquiry, the gentleman writes me, under date of April 16th: "I began preaching after I saw you, and have been able to keep it up every Sunday, once a day; but I have felt rather exhausted some of the time. On the whole, there has been a gradual improvement, — I ought to say, a very decided improvement in some respects, — and I am still gaining. . . . The ability to do some professional work must be attributable largely, if not entirely, to the operation; and this is a gain of incalculable value."

I have reported these cases more at length than I should otherwise have done, but for the desire on my part to emphasize the utter unreliability of the results of any single examination for proving the existence of insufficiencies of the ocular muscles.

If the cases are studied in detail, it will be found that the condition that was ultimately proved to be the cause of all the disturbance was rarely discovered at the first examination, and that it was only when the muscles had been relieved of their extra load, by the use of prisms, that the true state of affairs was revealed. Again, what is to be especially noticed in these cases is the fact that the von Graefe test for insufficiency and the ability to overcome prisms, which are supposed to be only different methods for arriving at the same facts, should so frequently show exactly opposite results. From my experience in these five cases I should say that, while I would not discard the trial of the ability of the muscles to overcome prisms, I should rely much more upon the results of the von Graefe test. I desire also to call attention to the fact that the constant use of prisms for a few days was a much more satisfactory method of trial. It is evident from the results obtained in these cases that when the weak muscle had an additional burden laid upon it by the prisms, that the disagreeable symptoms were aggravated, and *vice versa* when the burdens of the weak muscles were relieved and the severity of the symptoms abated.

With regard to the ultimate results in the cases reported, it would seem that if the incision had been a trifle freer, so as to have weakened the muscle a trifle more, that the results might have been better in the first, second and third cases. In the fourth case the result, although so far a failure, is so, apparently, because there is still a large amount of lateral insufficiency left, and also, probably, because there is a certain amount of vertical insufficiency which has never been corrected.

The results obtained in the first, second, third and fifth cases are highly satisfactory to the patients and encouraging to the operator, and have been accomplished after all other means had been tried and failed.

A word as to the number of such cases, and then I am done. From an ophthalmologist's point of view I should say that they were not numerous. The vast majority of cases of headache and neurasthenia, which have the eye for their starting point, are completely relieved by properly correcting glasses, and this too, when an insufficiency exists, according to the von Graefe test.

The correction of errors of refraction in neurasthenic cases should be done with the utmost care. An error of half a diopter in a spherical lens, or of ten degrees in placing the axis of a cylindrical lens, is sufficient to continue nervous disturbance.

A number of times, when I thought I had gotten another case to add to the number reported here to-day, I have found that I was mistaken, and that all that was needed was a more careful examination for errors of refraction than the patient had hitherto received, and a very slight alteration in the formula.

I say that these cases are probably rare, for the reason that I have been industriously looking for them for three years among all the clinical material at my command, and I have only found three cases in addition to those reported. These three cases all refused operation. It is probable that such cases may be more numerous in neurological than ophthalmological clinics.

In conclusion, while I am not in a position to judge as to the efficacy of partial tenotomies for the treatment of epilepsy, insanity, etc., I do believe that it is of great advantage in a certain class of neurasthenics.

FRACTURE OF THE SPINE.

WITH A CASE TREATED BY THE PLASTER-OF-PARIS JACKET.—DEATH.

BY U. O. B. WINGATE, M. D., OF MILWAUKEE.
Visiting Surgeon to the Emergency Hospital.

THE advancement made of late in the surgery of the brain and spinal cord seems to call for a full report of all cases coming under observation, whether originating from traumatic or other causes.

The following case, together with the remarks appended thereto, is related simply as additional evidence

to that long list of cases which may some time furnish material for useful conclusions.

F. R. D., a healthy man, thirty-six years of age, by occupation a carpenter, was struck in the back by a swinging blow from a heavy staging. He appeared much hurt, was first taken to his home, then brought to the Emergency Hospital, where he was entered about noon, November 5th, 1888. I saw him very soon after he was admitted, which was about two hours after the receipt of injury. He was suffering from severe shock; complained of great pain in the back; mind was clear; there was a marked deformity of the spine near the junction of the dorsal and lumbar vertebræ. The upper portion of the spine appeared to project slightly out over the lower portion. There was complete loss of motion and sensation below the seat of injury; retention of urine; no priapismus; no crepitus could be made out.

At 4 P. M. the patient, having rallied somewhat from shock, with the kind assistance of a number of gentlemen of the hospital staff, was carefully etherized and suspended *à la* Sayre, extension made, and the deformity reduced. A plaster-of-Paris jacket was then with much difficulty applied. The patient became pulseless, and had to be let down twice; but he came out from the ether well, and was much relieved of his pain. Unfortunately the material for the plaster bandage was poor, and the jacket was unsatisfactory.

November 6th. There is partial return of sensation in the lower extremities, but no return of motion. There is some pain, which is relieved by small doses of morphia administered subcutaneously. Tympanities is troublesome; relieved by several punctures into the colon through the abdominal walls, made by a small aspirator needle. No harm came from these punctures, the needle being thoroughly aseptic.

November 7th. The jacket being so unsatisfactory, it is removed; the patient again suspended, this time without an anæsthetic; and a very satisfactory jacket applied. Much pain is produced; patient let down twice in nearly a collapsed condition. After a period of rest he appears quite comfortable.

November 8th. Numbness of right hand complained of, and it is found that the hand and arm are nearly powerless. Much headache.

November 12th. Severe cystitis; headache better; right hand and arm the same; sensation improved. Bladder washed out twice daily with a four per cent. solution of boracic acid.

November 15th. Much pain in the feet and legs.

November 18th. Improvement in the right hand and arm.

November 21st. General improvement. Nearly normal sensation and strength in right hand and arm.

November 28th. On account of a bed sore appearing above the seat of injury, the jacket was removed. Patient can be moved without pain. A small amount of morphia is required at night to insure sleep.

December 4th. Cystitis much better. Right hand and arm fully recovered. Bed-sore healing nicely under a dry dressing of one part tannic acid and two parts iodoform.

From this time to December 25th he seemed comparatively comfortable and holding his own; then he began to fail.

December 31st. Has been failing for several days. Cystitis not troublesome; bladder requiring to be washed out every second day; very little pus. Bed-sore nearly healed. Nearly normal sensation in lower extremities, but no return of motion; appetite, which has been good, is failing; sleep poor. The childish, peevish mental condition which has been prominent throughout is more marked; there is great mental depression, loss of hope and general failure. In a word, the back of the patient seems to be broken in more than one sense. At this time my term of service at the hospital expired, and the case went under the care of my colleague, Dr. Chandler, who reports gradual failure, and the patient died on January 10, 1889, sixty-six days after the receipt of injury. For some reason a complete autopsy was not made, but a portion of the spine was removed which showed a fracture through the body of the first lumbar vertebra, the vertebra being crushed downward and inward upon itself somewhat like a crushed hat; there was also a fracture through both laminæ, also of several transverse processes. No direct pressure was sustained by the posterior part of the cord, but the anterior portion sustained a pressure from the bony formations resulting from the crushing in of the body of the vertebra and the attempted reparative process which was thrown out in a way to diminish the lumen of the spinal canal in a marked degree.

The cord was subjected to pressure at a place just above the corda equina, at which point it showed evidences of marked degeneration. The temporary loss of power in the right hand and arm was supposed to be due to some slight pressure in the cord above the seat of injury, probably from a small clot of blood which soon became absorbed.

There are two points of some practical interest connected with this case, namely, the treatment, and cause of death, to which I desire to refer in a brief manner.

In a very able and concise paper read before the Massachusetts Medical Society, and published in the Transactions, in 1887, by Herbert L. Burrell, M.D., of Boston, under the title of "The Immediate Treatment of Fracture of the Spine by Rectification of Deformity and Fixation by Plaster-of-Paris Jacket," the author, it seems to me, closes his paper with a most valuable conclusion, namely, "My own belief regarding the status which the procedure should occupy in surgery is, that it will occasionally be a life-saving measure; that it should be applied under anæsthesia in all cases of fracture of the spine which are not conclusively known to be irremediable; and that, apart from the chance of recovery offered to the patient by this means, it will almost invariably make the patient more comfortable, in that he can be handled more easily."

Such a conclusion I would but slightly modify at the present time. In the case above reported, on account of the modern brilliant results of operations upon the spinal column by Macewen and others, the question of operating came up. That there was pressure on, or injury to the cord, or both, was evident from the symptoms. Could an operation be done to relieve the cord of pressure, if such existed? Judging from the character of the blow received, the position of the spinal column and the absence of crepitus, I was convinced that there was either a fracture or dislocation, or both, of the bodies of the vertebræ, and that no operative measures, other than that adopted would be justifiable.

On examining the specimen of the spine removed, I think any surgeon will readily understand at once the

utter impossibility of remedying the injury by an operation. There is but one part of the spinal canal that can be attacked surgically, as has been pointed out by all writers from early times to the present, and that is from the posterior part through the laminæ. To attempt it from the front or side is impossible at sight.

Macewen, whose results have excited the admiration of all surgeons, says: "Traumatic lesions are, as a rule, so gross, and the destruction so complete, that, in such, operative treatment can be of little service. Still there are cases in which traumatism has produced localized pressure, primary or secondary, which can be relieved."

In this case, although the laminæ were fractured through, there were no fragments pressing on the cord from this source; but the entire direct pressure came on the anterior part of the cord from the crushing in of the body of the vertebræ, and as time progressed the attempted process of repair also being thrown out, added to this, and gradually diminished the lumen of spinal canal. It is true that, by removing a portion of the posterior arches, the indirect pressure would have been relieved; but the direct pressure, which was doing the mischief, pressing upon the cord precisely as a bridge of a violin presses upon the strings, could not be relieved, and any operation with such an end in view would only have added injury to injury to a most unfortunate man. Certainly at the present day no case of injury to the bony spine where there is any evidence of pressure upon the posterior part of the cord should go unrelieved by operation, but where such evidence does not exist, is a surgeon justified in making an exploratory operation on patients in the condition in which we observe this class of cases? I am not yet convinced that past experience or present and future prospects justify such a course, and desire for myself, should I meet with such an injury, to be spared from such surgery.

The relief from pain, and the ease in which this patient could be moved by his attendants after the plaster-of-Paris jacket was applied, were very evident and satisfactory.

In regard to the second point, namely, the cause of death in this case, it has occurred to me that the severe effects in the nerve centres, in this class of injuries, are often underrated.

This man did not die from septic causes and exhaustion produced by bed-sores and cystitis, as many cases with such injuries appear to do, for in both these respects he was nearly well.

Of what did he die?

In that admirable paper on "Shock," read before the last meeting of the American Surgical Association by Prof. D. W. Cheever, of Boston, he states that as a first degree of shock we have apprehension, and, going on through the degrees, at last we have collapse.

In the case above reported there was severe primary shock, and the degree of apprehension was marked and prominent from first to last. The injury to the cord was sufficient to account for this. The crushed condition of the cord acting on the nerve centre reacted on the ganglia, the heart, the brain; the life kept the patient in a feverish apprehensive state of mind, and this condition of mind reacted in turn to depress the nerve centre and the life. Cheer and assurances from his surgeon and attendants would rally him somewhat from this state, but he would soon relapse again. This went on until the effects of the increased pressure on the cord, together with the progressive ascending degeneration, at last turned the tide against our efforts, and death came with collapse after the patient had passed through all the degrees of primary and secondary shock of long duration.

I would offer by way of conclusion:

(1) The plaster-of-Paris jacket, as advocated by Dr. Burrell, affords at the present time the most promising and satisfactory treatment of all fractures of the spine where the bodies of the vertebræ are involved; but in the light of recent research, in all cases where there is evidence of pressure upon the posterior part of the cord, operation to remove the posterior arches is justifiable, and only in such cases.

(2) The existence of prolonged and dangerous shock, which is so often present in this class of injuries, renders operative measures, which must of necessity be of a very severe nature, highly objectionable, unless some positive evidence is present that such an operation may accomplish positive results by way of relieving pressure upon the cord.

IODOFORM IN DIPHTHERIA.

BY WALTER LINDLEY, M.D., LOS ANGELES, CAL.

AT the recent session of the California State Medical Society, Dr. Walter Lindley, of Los Angeles, read a paper on Diphtheria, in which, after accepting the theory that the microbe is the propagator of the diphtheritic poison, he continues, "How does this poison act?"

Frequently there are deaths from diphtheria where the disease has lasted but a few days. There is no exhaustion to cause heart-failure, and no strangulation; the patient, without a pang or a single struggle, sinks into a gentle lethargy and thus passes peacefully away. In such cases there is usually scanty urine, containing from twenty to fifty per cent. of albumen. Yet there are rarely uræmic convulsions. There is no other disease in which this combination occurs: — scanty urine, retained urea, abundance of albumen, and no convulsions.

It is well known that morphine and chloroform, by soothing the nervous centres, control uræmic convulsions. Is it not possible that this diphtheritic ptomaine acts in a similar manner, quieting the nervous system, and preventing convulsions? As in the case of morphine, if there is an excess of the ptomaine, death ensues. . . .

There is one other point of great value in prognosis, and that is the amount of albumen in the urine. No physician should attend a case of diphtheria without making at least a daily examination of the patient's urine. Dr. G. W. Lasher, who has performed tracheotomy and intubation oftener than any other practitioner in our section, and who has made diphtheria a special study, recently announced in the Los Angeles County Medical Society, that he had never known a case of diphtheria to recover where there existed at any time over thirty per cent. of albumen.

Treatment. — My opinion is that the treatment of diphtheria should be based exactly on the same principles as the treatment of puerperal fever. Antidote the specific poison; the cardinal point in doing

this is to destroy, remove and neutralize as much of the poison at point of infection as possible.

When the obstetrician believes septic poisoning is taking place through the uterus, he immediately tries to destroy and remove all septic material at the point of entrance. Not harshly and with force, but with a gentle, soothing intra-uterine douche of hot water, carrying in solution a germicide.

So should the action of the physician be when he is called to a case of diphtheria. If the membrane can be removed without tearing or hæmorrhage, remove it. If it cannot be removed without force, then the utmost efforts should be used to neutralize the septic germs that infest that susceptible locality. It is true that the throat cannot be so satisfactorily disinfected as the uterus and vagina, because it is constantly open to the entrance of air, and nutrient liquids that encourage the development of bacteria are frequently passing over its surface.

Some person says, "If you cannot remove all, why remove any?" Suppose a man has taken a poisonous dose of strychnia, and you know some of it has been absorbed, would you say there was no use of removing the portion of the drug that yet remained in the stomach? We hope to destroy so much of this septic material that not enough will enter the system to cause death. . . .

My own peculiar line of treatment is the use of iodoform, locally and constitutionally. I began employing this remedy several months ago. A case of mine has just proved fatal after intubation and tracheotomy had both been performed. The case then in hand was growing rapidly worse, and the temperature had risen to nearly 105°. The liberal insufflation of iodoform every three hours was then begun, and in twenty-four hours the temperature had fallen to 101½°. The membrane in twelve hours began to have a lifeless appearance, and in 36 hours dropped off entirely. Since that time I have had eight other cases, varying from severe to mild; two being slightly laryngeal in character, four showing from ten to fifty (one case) per cent. of albumen, and all but one recovering. In all these, iodoform has been my chief reliance.

The fatal case was a delicate girl, twelve years of age, suffering from chronic bronchitis. The first day I saw her the temperature was 104°, and the membrane covered the fauces. The urine, immediately on testing with heat and acid, appeared almost solid with albumen, and after settling for twenty-four hours, was half albumen. The nasal complication was also severe. Iodoform was insufflated through mouth and nostrils at least every four hours, after spraying the parts with listerine. The instructions to the nurse were to see that all perceptible membrane was covered with the powder.

After the third day the patient began to improve, and on the seventh day there was no albumen to be found in the urine. The patient was very bright, and I felt happy at the thought that I had a case with which to negative the dictum of Dr. Lasher, that none recovered where there was over thirty per cent. of albumen.

On the thirteenth day, when we thought our patient was about well, she had a severe chill, followed by high temperature and pain in the cardiac region. On examination, consolidation of the base of the left lung was found. The breathing from this time on was very rapid, the temperature high, and the pulse weak and rapid; but neither the membrane nor the albumen returned. On the seventeenth day the patient died from exhaustion. In this case the intercurrent pneumonia evidently caused death. My experience with iodoform justifies its having a further trial. Since beginning its use I have found in current literature six brief references to the subject. In conclusion, I recommend the use of iodoform because:

(1) It prevents the multiplication of bacteria.

(2) It is a soothing local anodyne.

(3) It is like alcohol, in having no toxic dose where the patient is suffering from the diphtheritic poison.

(4) It is so near impalpable that it reaches all portions of the diseased surface.

(5) It adheres for a long time to the surface where it is applied, and thus has excellent local effect before it is absorbed.

(6) It does not cause nausea, and thus interfere with nutrition.

(7) It does not produce diarrhœa or salivation, as is possible from an overdose of the bichloride.

(8) It is quickly and easily applied.

REPORT ON RECENT PROGRESS IN SURGERY.[1]

BY H. L. BURRELL, M.D., AND H. W. CUSHING, M.D.

EXTIRPATION OF THE RECTUM.

W. Levy, Berlin, proposes the following method for resection of the rectum, which he claims to have evolved from experiments and dissection.[13] An incision is made over the sacrum eight to ten centimetres in length, and about two fingers' breadth, above the cornua of the coccyx, through the superjacent soft parts to the bone. From the ends of this incision, two others about eight centimetres long, and at right angles to it, are made through the skin and glutæus maximus muscle. A broad blunt hook is now placed in one of the latter incisions, and it is retracted strongly outward. The greater and lesser sacro-sciatic ligaments are divided to the edge of the bone in the direction of the first incision. This is now repeated on the opposite side, and the fascia separated from the anterior surface of the sacrum with an elevator. The sacrum is now cut across with bone forceps. The flap is thus formed of bone soft parts, and the skin is drawn downward, exposing the rectum, which can be removed, if desired, from near the sigmoid flexure to within two centimetres of the anus. If necessary, on account of the large size of the tumor, the left wing of the sacrum can also be removed as in the Kraske operation. The resected ends of the rectum are united by a double row of sutures carefully set. The reflected sacral flap is replaced and sutured in position, after which the skin wound in its first portion is united. The side incisions are either packed with iodoform gauze, or united, and drained through the lower ends, through tubes which reach to the vicinity of the rectum. An antiseptic dressing or continued irrigation is the subsequent treatment.

THE TREATMENT OF TRAUMATIC SEPARATION OF THE SUPERIOR EPIPHYSIS OF THE HUMERUS.

Helferich[14] treated successfully a boy who had sus-

[1] Concluded from page 230 of the Journal.

[13] Centrbl. f. Chir. 1889, Bd. xvi, p. 218.

[14] München Med. Wochn. 1887, No. 40.

tained this injury, by opening the joint after an attempt to reduce the deformity had proved unsuccessful, restoring the fragments to their proper position, and fastening them in place with an awl-like steel pin. At the end of eight days the dressing was changed and the pin removed. The joint rapidly regained its function. Lange's case[15] is the only other case on record where this has been done immediately following an injury.

CLINICAL AND EXPERIMENTAL CONTRIBUTIONS TO LIGATURE OF THE FEMORAL VEINS BELOW POUPART'S LIGAMENT.

A recent investigator of these cases[16] has collected twenty-eight cases of this operation, fourteen of which recovered. Gangrene occurred in ten of the fatal cases. From experiments von Koretzky concludes that ligature of the femoral, between Poupart's ligament and the fossa ovalis, is a dangerous proceeding; for, aside from septic dangers, which with proper care may be overcome, Braune has demonstrated the existence of valves in all the veins given off at the fossa ovalis. These valves open towards the common femoral, an arrangement which makes the common femoral the only vessel relieving the return circulation of the lower extremity. The common femoral has no collateral branches. In an anomalous absence or insufficiency of the valves of the internal circumflex vein, this vessel could act as a collateral branch. A pressure of even three metres of water was found insufficient to overcome the resistence of these valves. Advanced age, chronic inflammation or tumors, may produce a collateral circuit from the thigh backward through the veins of the pelvis. Aside from this, Koretzky asserts that a third circulus venosus exists; namely, the circulus venosus subtubere ischii. In advanced age ligation of the femoral is less dangerous.

EXCISION OF BONE TO PROMOTE HEALING OF THE OVERLYING SOFT PARTS.

At the Medical Society of London,[17] Mr. Annandale contributed a series of cases treated by the above method. He says that he and other surgeons meet with cases of large sores which cannot heal because their thin edges are held agape by the bone beneath. Instead of resorting to amputation for these cases, he urged that a sufficient length of the bone or bones of the limb should be excised to permit of the approximation of the edges of the sore and its speedy cicatrisation. Other cases occur, particularly after burns, where an extensive, deep, and tight scar flexes a joint, effectually prevents extension, and in that way seriously cripples the patient. These cases have heretofore been left alone, or ineffectual attempts have been made to splice or stretch the scar. The author of the paper has dealt with them in quite a different way. If the soft parts are too short to permit of the use of the bones beneath, and cannot be lengthened, he shortens the bones. He has, therefore, excised considerable lengths of the bones of the elbow, and has obtained good results — useful, movable joints. Again he has applied the same principle in a case of fracture of the tibia with comminution, where, when the loose fragments of the bone had been removed, a gap remained, which failed to fill up with osseous tissues. A corresponding length of the fibula was removed, which allowed the two ends of the tibia to be approximated and to unite. All these cases are extremely interesting, and form a valuable addition to our knowledge. The treatment is, in reality, an example of "conservative surgery." Hitherto, in such circumstances, the choice has laid between a useless limb and amputation. And the sacrificing of a small portion of a member to restore the function of the whole is but a new application of the old principle of "conservative surgery."

THE TREATMENT OF CAVERNOUS ANGIOMA.

A spontaneous cure, where such tumors exist on the body, results, according to the conclusions of Mosetiz-Moorhof,[18] from (1) the obliteration of the afferent and efferent vessels; (2) spontaneous coagulation of the blood in the interspaces of the growth; (3) progressive limitation and final obliteration of these interstices, in consequence of a chronic inflammatory thickening of the framework of the tumor; (4) compressions from increase of surrounding fat tissue; (5) destruction of new growth by ulceration. These processes pass in review before the surgeon seeking a means to exterminate a growth of this nature. The two methods at present in vogue aim at the destruction or removal of the tumor. The simplest method aims to produce an artificial coagulation which should result in an obliteration of the growth. For this purpose Mosetig-Moorhof has recently used peroxyde of hydrogen. A child, eight days old, who had an extensive cavernous tumor of the right thigh, was relieved after nine injections (each 5.0 c.c.) into the midst of the growth, combined with central compression.

A MODIFICATION OF THE MACEWEN OPERATION FOR GENU VALGUM.

Dr. E. Hahn-Friedrichshain[19] claims that the usual operation is much more quickly and easily performed, in patients having large, firm bones, by operation through a double lateral incision, so that the femur can be chiselled from the outside as well as the inside. He has performed the operation in this manner in seven cases, to be subsequently reported in detail.

WLADIMIROFF-MIKULICZ RESECTION OF THE FOOT.

Bauerhahn[20] has reviewed the literature of the subject to date, and reports the results of twenty-seven cases. The resection has been done in a majority of cases for caries; in one case, on account of the defect resulting from a syphilitic ulcer. The results of trauma and sarcoma were the indications in the other cases. A radical cure from tuberculosis is not assured by this procedure, recurrence having occurred in four cases of Fischer's, in five of Lesa's, and in one of Rose's. According to *Lesa's* experience, it is especially liable to recur in young patients (three cases under twelve). Bauerhahn asserts that, after the operation, no apparatus is required. The resulting stump is suitable for standing or walking, and especially satisfactory in traumatic cases. The walking surface is greater than after a Syme or Pirogoff operation, and the toes, after a time, become quite elastic. The results are equal to those of other osteo-plastic operations on the foot.

LINEN SUTURES.

Heyder Bonn[21] claims that linen thread is as valu-

[15] Annals of Surgery, 1883, March.
[16] Alex. von Koretzky, Arch. f. Klin. Chir. bd. xxxvi, 3.
[17] Lancet, March 16, 1889.
[18] Wien. Med. Wchnschr., 1889, xxxix, 1.
[19] Centrbl. f. Chir., xv., 48, 1888.
[20] Zeitschr. f. Chir., bd. 27, hf. 5-6, xxvii.
[21] Centrbl. f. Chir., 1888, xv, 51.

able for sutures or ligatures as silk or catgut. It is prepared by soaking for twelve hours previous to an operation in a one per cent. solution of sublimate, and during the operation the usual one-tenth per cent. solution. Trendelenburg's experience shows that wounds heal as readily and without suppuration as when silk is used. Heyder Bonn reports a case where it was satisfactorily used for an intestinal suture.

PEAT MOSS AS A SURGICAL DRESSING.

The investigations of N. N. Jakimovitch [22] of this tensively recommended substance are important to those who are in the habit of using the sphagnum for surgical dressings. He found that peat moss is far from being an aseptic or antiseptic dressing, and contains mould fungi of various species of pencilium glaucum, and at least three different species of large and small micrococci. It is friable, becomes easily pulverized, and dusts out of the pails in which it is often used, soiling the patient's linen and contaminating his wound. It does possess a high absorptive power; but, to be fit for surgical use, it requires a most careful preparation to make it fully aseptic.

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[22] Ann. f. Surg., 1889, vol. ix, 70.

Clinical Department.

A CASE OF CEREBRAL SYPHILIS FOLLOWING AN ATTACK OF THERMIC FEVER.

BY LEWIS H. ADLER, JR., M.D.

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IT is a well-recognized fact that any cause which is able to induce an inflammation of a nerve centre, may, when present in a syphilitic person, provoke an outbreak of specific disease. Such an instance is recorded in the *Journ. de Méd. et Chir.* (Paris, 1879, p. 191), in which the attack followed a sunstroke.

Prof. H. C. Wood has seen in an extensive practice but one similar case, besides that of the patient whose history I record, and who was under Dr. Wood's care at the University Hospital.

E. L. C., age thirty-six, a widow, white, was admitted into the University Hospital, October 3, 1888, suffering from supposed uterine trouble. Her mother, who was harmlessly insane, due to softening of the brain, died at the age of fifty-two. Father, aged fifty-eight, is dead, also; cause unknown. Two children died of phthisis, aged respectively twenty and twenty-one. Rest of family history unimportant.

Personal History.— Patient never was strong and was of a very neurotic temperament. Menstruated at sixteen. Always regular up to a few years ago. Was married at age of twenty-two. Husband was healthy, but contracted dysentery in the army, from which he died. Had three children by him and two miscarriages. Causes and time of abortions not known. Memory very defective and history, therefore, somewhat uncertain and confused. Children are still living and apparently healthy (?) Labors were all natural but very severe. Each time was confined to bed for periods varying from one to two months.

About a year before present trouble caused her to seek relief in the hospital, she had a severe attack of thermic fever, which was followed by intense and persistent headache, difficulty in speech, failure in memory, general drowsiness, attacks of giddiness and paralytic seizures of more or less moment, and of varying duration. The above facts in reference to the sunstroke and its accompanying sequelæ were not known for some time after patient was admitted into the house, and then only by accident, after she had an attack of palsy which led to further and more extended inquiries that elicited the statement from her friends as already mentioned.

Her *present illness* for which she sought relief, began two years ago. Menstrual periods became very irregular, absent sometimes for four or five months. Would then occur suddenly and last for three or four weeks, during which time considerable fluid would be lost and she would be left very weak. The last time "period" came on, it lasted two months, and clots of blood were passed causing bearing down sensations, but no pain, to speak of. This attack left her very weak, and from her own statement, as well as her friends, she had lost much flesh.

Prof. William Goodell at this time had the patient in his wards, and an examination made by him revealed

a somewhat tender and prolapsed ovary upon the left side; a small bi-lateral tear of the cervix uteri, and the womb bound down to some extent by adhesions. Her general condition did not warrant operative interference, even had that step been deemed advisable. She was therefore, placed upon medicines of a tonic nature and kept at rest in bed. This treatment was kept up for some little time, and though it improved her condition somewhat, her progress toward health was not marked. About a month after her admittance into the hospital I noticed, in making my morning rounds, that patient was very stupid and drowsy, and unable to answer questions readily. This condition grew worse, and at night she was in a profound stupor from which it was impossible to arouse her. It was noticed at this time that the right pupil was markedly dilated and the left one about normal. At first it refused to contract to light, but about an hour later responded to light from a candle (though very sluggishly).

The next day she was quite rational and able to talk. It was at this time that specific trouble was suspected, and a careful examination to confirm this view was now made, resulting in finding marked tenderness along the crests of the tibiæ, and the soft palate was found to be entirely ulcerated away. There was also evidence of pre-existing buboes. Tenderness was noted along the nerve trunks, especially of the arms; absent, however, along the spinal column.

The case was now turned over to Dr. Wood, and at his suggestion was placed upon the mixed specific treatment, consisting of potass. iodide, grs. xx, and hydrarg. bichlor. corros., gr. $\frac{1}{24}$ t. d.

It was now observed that the pupils were unequally dilated; that the tongue was drawn to the right side and that the corner of the mouth on that side was lower than the left. There was also distinct though not entire loss of sensation in both arms. Power was greatly diminished. Sensation was retarded on both sides of chest and abdomen. There was no loss of motor power or of sensation in the lower extremities. Ptosis was present on the right side. The potass. iodide was now increased to grs. xl, and the bichloride to a twelfth, t. d.

Examination of the urine resulted negatively. Patient still continued to improve. Headache grew better and the change was generally marked.

Ten days after the last increase was made in the potass. iodide, it was again increased to one dram t. d. This dose, together with the $\frac{1}{12}$ gr. bichlor., was kept up for some time until diarrhœa ensued, when they were both reduced.

After a month and a half of this treatment, patient was hardly recognizable as her former self. Had regained flesh and was mentally, as well as physically improved. The paralysis had long since disappeared, and she was able to be up and about. She was discharged and advised to pursue treatment for some time to come.

At last accounts she was doing well and had no return of previous attacks. Her head was also comparitively free from pain.

At the onset of the attack of coma, which occurred in the hospital, the patient was perfectly quiet and relaxed. There was no evidence of hemiplegia or of palsy, although after recovery of consciousness paralysis was noted.[1] That the diagnosis of cerebral syphilis was correct in this case, I think the evidence upon the patient's body conclusively proved, and was further decided by the so-called therapeutic test, about which Prof. H. C. Wood speaks in the following terms: — "In all cases of doubtful diagnosis the so-called therapeutic test should be employed, and if sixty grains of iodide of potassium per day fail to produce iodism, for all practical purposes the person may be considered to be a syphilitic. No less an authority than Seguin has denied the validity of this, but I believe, myself, that some of his reported cases were suffering from unsuspected syphilis. I do not deny that there are rare individuals who, although untainted, can resist the action of iodide; but in ten years' practice in large hospitals, embracing probably some thousand of cases, I have not met with more than one or two instances which I believe to be of such character; of course in making these statements I leave out of sight persons who have by long custom become accustomed to the use of the iodide, for although in most cases such use begets increase of susceptibility, the contrary sometimes occurs. Of course the physician who should publicly assert that a patient who did not respond to the iodide, had syphilis, would be a great fool; but in my opinion the physician who did not act upon such a basis would be even more culpable."[2]

The symptoms which occurred soon after the attack of thermic fever, and which plainly pointed to a specific origin, evidently were prematurely induced by the sunstroke. The case is interesting on this account, as well as from its curious manifestation of disease which led to a correct interpretation of the true trouble and finally to, if not its cure, its amelioration.

[1] Similar cases are recorded by Dr. J. Althaus. Medical News, vol. xlix, p. 428.

EARLY DIAGNOSIS AND OPERATION IN A CASE OF ULCERATIVE APPENDICITIS.

BY BURNSIDE FOSTER, M.D., MINNEAPOLIS, MINN.

A BRIEF report of the following case, which recently came under my observation, will, I think, be of interest to the readers of the JOURNAL.

I was asked by my friend, Dr. Knut Hoegh, to see in consultation H. M., a Norwegian merchant, age 37. For the last six or seven years he had been subject to attacks of colic, at first of moderate intensity, but which, later, became more frequent and severe. These attacks were usually accompanied by diarrhœa, but the patient could not say whether this preceded or followed the attack. At first there would be intervals of six months or so between the attacks; but during the last fifteen months there have been five attacks, each one worse than the preceding; and he would be left weak and ill and unable to attend to his business for many weeks at a time. Sometimes the attacks would come on at night while he was asleep, and he would be waked up with an aching pain over the whole abdomen, which would always settle in the right iliac region. The pain would steadily increase, and would often be accompanied by chills and attacks of shaking. There was nausea and wretching, but never vomiting. There was always extreme pain and tenderness in the ilio-cæcal region over a space the size of a silver dollar. There was sometimes difficulty in urination, but he never passed anything abnormal, and there have been no signs in the urine.

[2] Wood. Pepper's System of Medicine. Vol. v, p. 1013.

No blood or anything abnormal has been passed by rectum. Lungs and heart apparently healthy. He complains of a constant feeling of being bloated, — as if his bowels had not moved sufficiently. Appetite usually good, and he is never distressed by food.

The above history was obtained from him in June, and he was treated symptomatically, and sent back to Dakota, where he remained without any improvement until early in August.

I first saw the patient August 15th. A careful physical examination, both externally and by the rectum, failed to discover the slightest tumor or swelling in any part of the abdomen; but midway between the umbilicus and the spine of the ilium, over the ilio-cæcal region, there was a spot about the size of a silver dollar which was very tender on pressure. Dr. Hoegh and I arrived independently at the same conclusion, that there was some inflammatory trouble with the appendix vermiformis, and that the patient's condition justified an exploratory operation. The patient himself, an intelligent man, agreed to anything which offered a hope of relief.

August 19th, the patient having been kept for a couple of days on liquid diet, under chloroform anæsthesia, Dr. Hoegh made an incision about four inches long in the right linea semilunaris. On opening the peritoneum, the cæcum and appendix were readily found, the latter pointing downwards and toward the median line. The process had a peculiar, firm, elastic feeling, and was about two inches long. At its base there were some not very fresh adhesions, which were easily separated, The process was ligated at its junction with the cæcum with stout silk, and amputated. The serous surfaces were stitched over the stump with fine silk. Dry gauze napkins, previously boiled, were used instead of sponges, and the wound was kept perfectly aseptic. The edges of the wound were united throughout and closed without drainage.

At the conclusion of the operation the appendix was examined, and presented the following condition: It was about two inches long and somewhat thickened in the centre; the opening into the cæcum was quite contracted, being smaller than the lumen of the process; on opening it, there escaped at once about half a drachm of dark brown pus, the odor of which was fetid rather than feculant; the mucous membrane was the seat of two ulcers, neither of them very deep; the largest one was near the centre, being about a quarter of an inch in length, and occupying nearly the circumference of the appendix; the other smaller one was near the apex, and was about the size of a split pea. The subsequent history of the case has been uneventful.

Reports of Societies.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED MEETING, May 20, 1889. The President, CHARLES S. WOOD, M.D., in the chair.

Dr. T. H. MANLEY read a paper on

THE OPERATION FOR STRANGULATED HERNIA BY THE MCBURNEY METHOD, WITH REPORT OF THREE CASES.

Since January 1st of the present year, he said he had had in his hospital service three cases of strangulated inguinal hernia, all of which were operated on as quickly as possible after admission, with a view not only to relieving the constriction, but also at the same time permanently curing the patient by means comparatively simple, and by all odds the safest yet devised. For the procedure adopted in these cases the profession was indebted to one of New York's most distinguished surgeons, Dr. Charles McBurney, who had thus added one more gem to the diadem of American surgery.

McBurney's operation was characterized by a few cardinal points which were decidedly original, and which, if well understood and skilfully applied, must always lead to successful results. These were: (1) An open wound; hence no septic infection or purulent infiltration. (2) The excision of the sac. (3) The suturing of the cutaneous and aponeurotic edges of the wound together. (4) The closing in of the breach by connective, scar or cicatricial tissue formation.

The difference in the character of the three cases in question rendered necessary some modifications in their management; but in all, there were followed out the fundamental points laid down by McBurney, whose operation was recommended for every variety of abdominal protrusion, wherever or whenever found.

The first case was that of a male forty-five years of age, whose hernia, on the left side, had existed as long as he could remember. From time to time the protrusion would disappear spontaneously, though he always wore a truss; and up to the day before he entered the hospital the patient had not noticed it for more than four months. On this day, after unusual straining at stool, the tumor reappeared larger than ever, and unusually tender to the touch. The man himself and his family physician both having failed in reducing it, he was sent to the hospital, where he was seen by Dr. Manley. At this time there were no signs of strangulation, and as his condition was very good, he refused to submit to an operation, which was strongly urged. Topical applications were applied for the purpose of favoring reduction, and these were followed by temporary relief; but, four days after the reappearance of the hernia, well-marked symptoms of strangulation declared themselves.

The patient was now eager for the operation, and an anæsthetic having been given, the skin was quickly opened by one bold stroke of the scalpel carried from a point just over the internal opening of the inguinal canal to an inch below the external ring, and then the coverings were divided until the sac was reached; the upper part or neck being first sought, and the body cut down later, The sac was found to be an old one, and bound down by very firm adhesions, which were separated only with the greatest difficulty. Within the sac was found a knuckle of intestine, with a large quantity of effused serum. It was calculated to leave the spermatic cord alone in operating; but in this case there was no spermatic cord, either within or without the sac. When the canal was opened the cause of all the trouble was found, viz., an undescended testis, which was normal in shape, but was not larger than a kidney bean. By making considerable traction it could be readily brought out of the canal, and Dr. Manley considered the fact that the inguinal opening was patent throughout its entire length, attributable to the defective development, the testis sometimes slipping down through the ring when there was much straining, and then

returning again. This condition had naturally kept the patient in a constant state of danger, and the displaced testis was also the cause of the constant discomfort which he said he had experienced when wearing a truss. After opening the canal throughout and removing the testis, traction was made, and the whole of the protruding portion of the serous sac ligated and cut off. The cutaneous edges were drawn down to the divided edges of the canal, and six sutures put in on each side; after which the open wound was packed with iodoform gauze, and the usual antiseptic dressings applied. After the operation the patient never rallied, and death ensued four hours after its completion. This man's life, Dr. Manley said, should have been saved, but it was lost through his refusal to submit to an early operation, — the delay resulting in septic infection of the peritoneum and general exhaustion of the system.

The second case was in a male twenty-nine years of age, who had worn a truss for many years, but discarded it about a year before, when his rupture disappeared. It suddenly returned one day when he was making severe exertion, and several physicians having failed to reduce it, he came to the hospital. As in the preceding case, an immediate operation was advised, but the patient refused, and the tumor, which was very small, remained unreduced in spite of all that could be done. The next day there was a marked change for the worse, and locally there was found marked fullness along the cord in the inguinal canal, while the scrotum was distended with an enormous hydrocele, and the hernia itself had increased to more than five times its original size. In addition, there was well-marked peritonitis in the region of the sac, with a tendency to rapidly become general, and, altogether, septic infection was evidently in full progress.

Under such circumstances, the success of any cutting procedure was very doubtful; but an operation was now, of course, the only resort. The great advantage of the McBurney method in cases of this kind was, that we had a large open wound for free drainage, and an opportunity to remove, as occasion required, any diseased or contaminated tissue met with. In this case the hernia had no sac. As in the preceding instance, there was an old congenital impediment (though the testis had descended), and the spermatic cord dangled in the centre of a large pouch. Hence, to carry out the operation according to the method adopted, it was necessary either to sacrifice the testicle or make an artificial investment for it. As the latter would render the patient liable to another hernia at an early date, and, moreover, as it was found that the *vas deferens* was reduced to a mere thread in thickness, and the testis was very imperfectly developed, with no well-defined epididymis, and therefore probably useless functionally, the organ was removed. In order to secure a continuous sac, the unclosed *tunica vaginalis* had to be dissected off all the way up to its origin at the internal ring. The protrusion consisted of a small knuckle of intestine with a large mass of discolored and partly gangrenous omentum. The latter was drawn forward until healthy tissue was reached, when it was ligated and cut off. With its stump properly invaginated within the peritoneal cavity, and the omentum well up, the sac was cut off, and the wound treated in the usual way. Though Dr. McBurney laid stress upon the importance of keeping the patient six weeks in bed after the operation, this man could not be persuaded to keep quiet so long, and left the hospital perfectly well on the twenty-ninth day. (This patient was presented to the Association, and an opportunity given the members of examining the cicatrix.)

The third case was that of a woman fifty-one years of age. The hernia had existed for fifteen years; and ten days before her admission to the hospital she found it was impossible to replace it as usual. She also became obstinately constipated, and numerous enemata had no effect in relieving the bowels. On the night of the tenth day symptoms of strangulation set in, and her physician, who had previously exhausted every means to reduce the hernia, advised her to enter the hospital. She was admitted at midnight, and Dr. Manley saw her one hour afterwards, when her condition was exceedingly serious, notwithstanding the fact that from the moment of her entrance stimulants had been freely given and artificial heat assiduously applied.

The operation was commenced as promptly as possible, and on account of the extreme exhaustion of the patient, special effort was made to render it as brief as was consistent with thoroughness. When the peritoneum was reached, it was found that it had formed a pouch which was firmly adherent to the surrounding parts, and, from the thickness and toughness of its walls, undoubtedly an old one. The sac, close to the inner side of which lay the round ligament, was divided in a longitudinal direction; when it was found that the greater part of its contents consisted of omentum, which towards the neck was very firmly adherent to its serous covering. Immediately under the protruding fat was discovered a small knuckle of intestine, of a port-wine color, with its peritoneal investment, which had a peculiar granular feel. After the sac had been torn free from all its connections with adjacent parts, it was opened in the lower portion, which permitted the drawing down of the omentum to a slight extent. This having been done, it was ligated in mass, and the stump returned to the peritoneal cavity. In this case, as in the others, the inguinal canal was opened throughout its whole length.

The last steps of the operation, the sewing together of the skin and aponeurotic structures, and the packing of the wound, presented unusual difficulties in this instance, on account of the extreme amount of adipose tissue in the abdominal walls; but by somewhat modifying the *technique* of the operation, these were overcome. Though the patient was extremely weak for a few days, all her dangerous symptoms disappeared with the operation, and she made a rapid and satisfactory recovery.

Before the time that McBurney promulgated the principles for an operation which offered advantages which none yet devised possessed, Dr. Manley went on to say, the operation for strangulated hernia was attended with a fearful mortality, Bryant putting it at fifty per cent. in the hands of the best operators. By a strange coincidence, there were admitted into the female surgical ward of Harlem Hospital, during the first week in July, 1888, three women with strangulated hernia, the only women entering with this accident since the hospital had been opened. The first was a healthy, muscular individual of twenty-nine years; and the second was fifty, and though of spare figure, also sound in health up to this time; while the third was sixty-five years old, and greatly emaciated

and reduced in strength. The most persistent efforts at reduction by taxis failed; and all were operated on within twenty-four hours after the latter was abandoned. The operation was simple, as the only aim was to release the constriction at the neck and return the protrusion; but two of the patients died within forty-eight hours after the operation, and the one who recovered, strange to say, was the feeble old woman of sixty-five.

Dr. Manley said that though there might be a diversity of opinion as to the propriety of doing any operation in the case of an individual with a hernia that could be comfortably borne with the aid of an easy truss, or in the case of very young children, he could hardly conceive of any objection against a procedure which, while it obviated the greatest dangers in strangulated hernias, afforded, in addition, the reasonable prospect of a permanent cure and the liberation of the patient from the unceasing burden of a truss. There were two great sources of danger encountered in every case of strangulated hernia operated upon, which the McBurney method always eliminated. These are, first. peritonitis, from septic infection, and second, hæmorrhage. As far as immediate danger to life was concerned, all other dangers, bleeding included, sank into insignificance when compared with the first.

If there was localized contamination a free opening could be made, and the cavity of the peritoneum boldly entered. If any of the extruded part was undergoing putrefactive changes, it was removed, no matter whether it was fat or gut, omentum or mesentery. If there was reason to suspect that the serum of the peritoneum had become infected, an opening might be made by the exposure of the ring, or perhaps the crural arch; while if this were not free enough, it could be readily enlarged by an incision into the fibrous tissues, and the whole region thoroughly flushed with some efficient antiseptic wash. To be the more certain that no pent-up decomposing material remained, a drainage-tube could be introduced. If it were objected that the free use of the scalpel in dividing the strong bands of aponeurotic structure would tend to weaken the power of the abdominal walls, it might be answered that we would resort to this only in a very severe case, when general contamination was feared. Besides, immediately after the parts are well washed out, the line of incision would be solidly sutured.

As to hæmorrhage, this method marked a new era in dealing with inguinal bleeding. This procedure ended the blind groping with a stub or blunt-pointed blade for a part which should be recognized by the touch only. Under the old plan the one great thing which the surgeon found in dividing the constriction was hæmorrhage; and hence very great stress was laid on the importance of keeping well in mind the bearings of the blood-vessels, for, unfortunately for the patient, if a deep vessel happened to be divided, it would scarcely be known until after he was dead. In addition, there was such an exaggerated fear of disturbing the peritoneum that it would be only a very bold surgeon who would cut down for the divided ends of the wounded vessel. But with a free, open wound, with its edges well separated by retractors, and every part thoroughly exposed to view, the chances of hæmorrhage were reduced to the minimum, and if perchance a vessel pursuing an anomalous course should come in the way of the scalpel it occasioned no alarm whatever, since the point of injury would be in full view, and the bleeding could be readily controlled by the clamp forceps. The importance of avoiding hæmorrhage was still more appreciated when it was remembered that hæmorrhage, independent of the quantity of blood lost, may become a source of danger by exciting inflammation, and possibly spreading infection. It was well-known that the presence of even a very small quantity of blood would often interfere with primary union of a wound, and in this operation the tissues were not permanently brought into apposition until every vestige of bleeding had ceased.

A very interesting feature of Dr. Manley's three cases was the anatomical arrangement of the structures in the inguinal region. In no one of them did he find a true recent peritoneal sac; the hernia being either of congenital origin, or having existed for a very long time. In the first case the displacement of the structures met with was quite unique. Here it was well shown what mischief an undescended testis may occasion, and there was also observed a condition that must be rather rare — an open external inguinal ring, with the undeveloped testis lying in the position of a bubonocele, at one time sliding down and out, and again returning to its original position. In the second case, too, the opening and direct connections of the *tunica vaginalis*, the peritoneal cavity was complete, and he believed that in this instance, as in the preceding, the testis was originally lodged somewhere along the inguinal canal at birth, though at a later period it completed its descent.

In the woman was found a condition which he believed was originally attributable to defect of developments at birth; but which escaped the patient's notice until the strength of the abdominal walls was put to a severe test by a sudden strain; when this portion of the physical structure, which was weakened by some congenital defect, gave way and allowed a hernia to develop. It was thought in the text-books that in the female in early life the duplication of the peritoneum covering the round ligaments, called the canal of Nuck, which is analogous to the tunica vaginalis in the male, sometimes remains open, and hence can readily become the seat of hernia. In no other way could he account for the condition met with in this woman, and he thought that the possibility of such a thing should always be borne in mind in the case of females. The very small size of the round ligaments was also quite striking, and hence he did not wonder why surgeons so often fail to find it all in performing Alexander's operation for shortening this ligament. It could easily be seen, too, he said, that an inguinal canal containing nothing but this very small and delicate cord must needs have a very small lumen. In the case in question, however, the inguinal canal seemed to have no length; probably owing to the volume of omentum and the long displacement.

The thick and tough sac was closely adherent to the areolar tissue, and it was unquestionably a very old impediment. The pouch, originally of a thin, gauze-like tissue, had in the progress of time undergone hypertrophy and considerable change in its histological elements; and this change in texture was no doubt one of nature's ways of providing against injury, the thickening and strengthening of the covering of the extended viscera, thus affording it protection from accident.

Dr. Manley went on to say that from his clinical experience and from a most careful and extended

series of investigations on the dead body, in the male and female, adult and child, he was firmly convinced that abdominal hernia in its various forms, and especially the indirect inguinal variety, is nearly always attributable to defective development at birth, or to causes acting immediately after it. Having referred partially to his observation upon infants, he said he was furthermore persuaded that the arrest of the descent of the testicle sometimes met with is responsible for the vast majority of herniæ in males. No two hernias, he believed, were exactly alike, and if in different cases of local pathological conditions were similar, there was apt to be a wide difference in the general condition of the patients.

In the treatment of strangulated hernia by the McBurney method, among the questions which arose for consideration were the following:

(1) How soon should an operation be performed after the hernial protrusion is found to resist taxis?

(2) What are the circumstances which call for a modification of the *technique* of the operation?

(3) What are the dangers, immediate and remote, in the operation, and how can they be obviated?

(4) What class of cases should be rejected?

The first question was more important than all the others, and upon its decision the success of the operation would in a large measure depend. Dr. Manley's recommendation was that whenever a case of hernia which cannot readily be reduced is met with, an immediate operation should be advised, provided the facilities to do it and for carrying out the most rigid antiseptic treatment of wounds are at command. Under such circumstances the patient is not worn out with agonizing pain and exhausting vomiting, but is in good condition and almost certain to make a rapid and permanent recovery. What could be promised now, (and this constituted one of the principal inducements for an early operation) was something which had hitherto been unknown, namely, a complete cure of the hernia. If the patient was in a vigorous condition but afraid of general anæsthetics, a few cocaine injections would suffice to blunt the pain occasioned by the cutting. If the objections were raised to immediate operation that if a longer delay is allowed and we work perseveringly we may be able to return the protrusion without any mutilation it could be answered that even if we do succeed, we cannot guarantee our patient from a return of the same trouble, which is liable at any time to imperil his life again, while if we finally fail in our efforts at reduction, the chances of recovery after the operation that will then be imperative, will be much smaller than if operative interference had been resorted to earlier. Promptness in operating was, therefore, of the greatest possible importance.

In answer to the second question he would say that the wound made through the skin, fascia and fat must be dealt with differently in fat and lean subjects, and also with reference to the kind of hernia present, and the condition of the tissues, whether healthy or not. In thin individuals little difficulty would be met with in suturing the skin to the conjoined tendon and to the fascia transversalis in oblique inguinal hernia; but in the very fat, he believed it was sometimes better to omit this part of the proceedure. In his opinion a case would do equally well if, after packing the wound with guaze, the edges were brought towards each other by broad strips of strong adhesive plaster. Of course, if in any case infection was suspected at the site of incision, the wound would have to be made somewhat larger, so as to provide for free irrigation and drainage. A hernia other than the indirect oblique would not require so free an incision. In making the incision the operator should be guided by a single purpose, namely, to make it large enough to enable him to deal with the deeper structures safely and speedily. In patients suffering from great exhaustion, he believed that the surgeon should operate with all possible haste, compatible with thoroughness, and he said he could not doubt that prolonged anæsthesia was responsible for the loss of many lives. If, on exposing the bowel there were found positive evidences of gangrene, the result of too long delay, enterectomy was called for; after which the remaining healthy portion of the guts should be returned, and the operation completed in the same manner as if this pathological change had not been encountered.

In a hernia not of congenital origin, the management of the sac was a simple matter, but when its external surface was found firmly attached by old and strong bands of connective tissues, it was necessary to carefully and completely detach them before we could be quite certain that we had reached the free floating covering of peritoneal tissue which must be shut off by the ligature applying high up, before the sac was divided. With recent protrusions, accompanied by inflammatory exudations of lymph, it was very easy to separate the adhesions, but in irreducible and incarcerated hernias, and those of the congenital variety, the most cautious and tedious dissection, in order not to injure the parts, was often required. To an operator familiar with the anatomy of the region, and with the tissues met with, such adhesions were, however, objectionable only because they prolonged the operation. In every instance when, on cutting down upon a hernia, it was found to be one dependent on defective development or misplacement of the testis, and likely to occur again in consequence of this impediment, he thought the surgeon should not hesitate to castrate. If the testicle had been an active factor in the production of the hernia, it was, in his opinion, pretty sure to be feeble in function; but, even if this were not the case, the man would still possess full virile power with the other one remaining. With this impediment removed, and the spermatic cord out of the way, we could solidly seal the whole chasm in the abdominal wall, and thus obviate the risk of leaving what might, later, possibly lead to a repetition of the same trouble.

In the inguinal region there was considerable anatomical and histological differences between males and females. In women the skin was very thin, and, if they had given birth to many children, it was usually wrinkled, atrophied and destitute of strength or elasticity. In those past middle life, too, there was apt to be a large deposit of fat, which, while it did not interfere materially with completing the toilet of the wound, did most decidedly retard the healing process. In such cases it was imperative that the union of the wound should begin at the base, and thus gradually gather in, and draw the article towards the the centre, as it proceeded outwards.

Iodoform, dry or rubbed into the meshes of cheesecloth or gauze, he went on to say, should be used sparingly with the first dressing, unless, for special reasons, septic infection were feared. This precaution should be taken with the primary dressings until the

patient's tolerance of the drug could be well ascertained, since otherwise its toxic effects upon the system might be serious. If it was found, however, not to excite undue irritation or produce other unpleasant results, its use would no doubt tend to keep the wound sweet, and shorten the healing process. In ordinary cases, where there was little tension, the catgut ligature was perhaps the most useful; but where there was any resistance, or where it was desirable to retain the parts in apposition for any considerable length of time, silk or strong linen was preferable. For ligating the sac or omentum strong silk only should be used, because it was the most reliable, and, if first rendered thoroughly antiseptic, it could be safely buried in the tissues without giving rise to irritation or ulceration.

It was seldom, indeed, that hæmorrhage would occasion any difficulty in this operation. When, however, the ordinary resources failed to control the bleeding, or when the two parts of a large divided vessel re tracted, he had found the temporary transfixion ligature invaluable. Having applied this, one could go on with the operation, leisurely seeking out and securing the bleeding points, when the temporary stitch might be removed.

The only immediate dangers in the operation, other than those which had been considered, were shock and exhaustion. Having given some attention to these subjects, he stated that he would decline to operate only on those who were bordering on the moribund state, especially those in profound shock or deeply narcotized and the very old.

In conclusion, Dr. Manley said that while there could be no doubt that the McBurney operation was generally successful, and that it was the easiest of performance, the safest from septic infection and the least liable to be followed by relapse, of all, the consummation of this admirable procedure, marking as it did a new era in herniotomy, would not have been possible without the light shed upon abdominal surgery by Marion Sims, and without the discoveries of Pasteur and Lister in bacteriology and antiseptics.

In the discussion on the paper, Dr. George S. Huntington, who had assisted Dr. McBurney in a number of his operations at the Roosevelt Hospital, said that, as to the approximation of the integument and the deeper structures, the conjoined tendon and the transversalis fascia, it was for the purpose of more readily accomplishing this that Dr. McBurney advocated the passage of lateral tension sutures; and it has proved that by the careful adjustment of these tension sutures very satisfactory results were obtained. He said he should be somewhat afraid of leaving so large a wound without any sutures, as suggested by Dr. Manley in certain cases, for the reason that, on account of its large size, there would seem to be a probability of the cicatrix resulting being rather weak.

MORE COMPLETE REGISTRATION OF BIRTHS.

Dr. J. G. TRUAX moved that a committee of three be appointed by the chair for the purpose of conferring with the New York Board of Health, with a view to securing a more perfect registration of births than is now made. In the case of the deaths, he said the registration was complete, because no dead body could be interred or removed from the city without a written permit from the health department; but it was notorious that the registration of births was at present very incomplete.

In seconding the motion, Dr. ALFRED L. CARROLL said that, to judge from the New York vital statistics, as published every week, one would naturally suppose, from the preponderance of the deaths over the births reported, that the population of the city was rapidly diminishing. The simple explanation of this was, that a very considerable proportion of the births were never reported at all, and this was due principally to the fact that nearly forty per cent. of all confinements were not attended by registered physicians or midwives. Some time ago, when he was Secretary of the New York State Board of Health, he had carefully investigated the registration of vital statistics in the principal countries of Europe, and he found that in Great Britain and Germany, where the records of births were very complete, the onus of reporting all the births was placed upon the parents, or the guardians in the event of the parents' death. Through his efforts the law had now been so amended as to make this the case also throughout the State of New York in general; but this did not apply to the large cities, like New York. At present, therefore, the vital statistics of this city are absolutely worthless.

The motion having been adopted, the president appointed on the committee Drs. Truax, Carroll, and J. R. MacGregor.

— It is stated on what seems to be good authority that food preparations for infants to the amount of $10,000,000 are annually sold in the United States. According to one of the speakers at the recent meeting of the Association for the Advancement of Science, "most of these products are unwholesome," and the Government was urged to take some action.

— A lay contemporary has learned "what killed Maybrick," and answers the question by copying from "an English medical journal" the list of the drugs which were administered to Mr. Maybrick during his illness. This list is as follows:

Morphia suppositories; ipecacuanha wine; papain and iridin solution; cascara sagrada; nitro-hydrochloric acid; tincture of nux vomica; Fowler's solution; Plummer's pill; dilute hydrocyanic acid; tincture of henbane; bromide of potassium; antipyrin; tincture of jaborandi; bismuth; sulphonal; cocaine; nitroglycerine; dilute phosphoric acid; solution of chlorine, Sanitas, glycerine and Condy's fluid, as mouth washes.

— The Farmers' Alliance of Georgia have already as reported in the daily press, boycotted the undertakers who belong to the State Association, because they had agreed upon a price of coffins. "The Death Trust," as it was called, was denounced in vigorous terms. Now the Alliance goes a step further, and legislates against doctors who belong to medical associations. The resolutions adopted by the County Alliance of Johnson County, read:

"*Whereas*, we have been informed that some of our physicians have gone into a combine, or organization equivalent to a combine, that is detrimental to our interests; therefore, be it

"*Resolved*, that we publicly denounce any such organization, and also any physician who has or may hereafter attach himself to that or any other similar organization; and we will not patronize any physician who belongs to that society when we can do better."

The granger interest is indeed working itself up into a state of mind on the subject of all combinations, not only of capital but of brains.

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FRIEDREICH'S ATAXIA.

THE rare disease of the spinal cord, first described by Friedreich as "degenerative atrophy of the posterior spinal column," has ever since been of great interest to the student of nervous diseases. Its relations to tabes in the adult, its connection (real or supposed) to the development of the nervous system, and its curious generic character, have been additional features which add to its interest above many other rare affections. The reported cases are few, and the autopsies still fewer; so that each additional case is full of value.

The most exhaustive study that has yet appeared is that made by Dr. J. P. Crozer Griffith, and presented before the College of Physicians, of Philadelphia, and just published in their transactions. He begins by quoting Friedreich's original definition of the disease, which he supplements by a new one, more in accord with our recent knowledge. "Friedreich's ataxia," he says, employing this name in preference to the many that have been suggested, "is a chronic, systemic, inflammatory degeneration of the spinal cord, developing usually in infancy or childhood, and occurring in cases in which there has probably been an arrest of development of the cord during fœtal life, this being the result of some hereditary predisposition. It is situated chiefly in the posterior columns, the lateral pyramidal tracts, the direct cerebellar tracts, and the columns of Clarke; though other parts of the white and gray matter are very commonly somewhat affected, and the sclerosis extends slightly into the medulla. The affection is characterized clinically by a disturbance of the co-ordination of the bodily movements, developing gradually, advancing from below upward, and finally involving the organs of speech. Curvature of the spine, talipes, vertigo, and nystagmus are frequent. The patellar reflex is nearly always abolished. Paralysis and sensory disturbances are not uncommon in advanced cases. Trophic, vaso-motor, and visceral affections are unusual, and any involvement of the intellect is probably accidental."

In the present essay the author has tabulated 143 reported cases, including seven presented at the meeting at which it was read, and has added two other cases in a foot-note. Over 57 other cases have been reported as occurring in the families of these patients, and other possible cases are summed up in a supplementary table. In these 143 cases there have been twelve autopsies.

Although Friedreich's ataxia is, broadly speaking, an hereditary disease, direct inheritance is infrequent; but polymorphic inheritance, from other neuropathies, — alcoholism, tuberculosis, syphilis, etc., is quite common; previous ataxia or other nervous diseases having, however, far greater influence than intemperance or constitutional affections. The symptoms, contrary to Friedreich's original assertion, commonly develop early in life, much before puberty, which seems to have little influence upon the onset. The disease has been thus far commoner in the male sex, and its onset in the predisposed is often hastened by acute diseases.

The symptoms of Friedreich's ataxia are predominantly motor. In 128 cases, for instance, there was, at some period of the disease, motor ataxia. The gait, however, is more apt to resemble that of cerebellar disease than that of tabes. Ataxic station, with Romberg's symptom of increase on closing the eyes, is also common. Later on, in many cases, the arms have also become ataxic. In some of the cases the muscle sense has been tested, and it has borne no relation to the existence of Romberg's symptoms. Static ataxia is reported in a few cases, and is regarded by the author, with Friedreich, Charcot and Ormerod, as a late symptom. Tremor, choreiform movements, and spasm, are occasionally seen. Paralysis was present in 56 cases, and absent in 53. Most of the latter were early cases, and paralysis is generally considered one of the late symptoms. In many cases locomotion becomes impossible, either from marked inco-ordination or paralysis. Contractures, talipes, and spinal curvature are also apt to develop in the later stages. The electrical irritability is seldom affected. In the majority of cases the knee-jerk is lost, but its absence is not so constant as in tabes, which may be due to the fact that the lumbar enlargement is not always involved in Friedreich's ataxia. Muscular atrophy and other trophic disturbances are rare; even vaso-motor disturbances are not often seen.

In spite of the fact that the posterior columns have been found diseased in every one of the twelve autopsies, it is curious that the sensory symptoms, which predominate in tabes dorsalis, are rare in Friedreich's ataxia. Pain of any kind was reported in only 22 cases early in the disease, and was absent in 79; while the presence of lancinating pains renders the diagnosis of Friedreich's ataxia doubtful. Later on, pain is rather more common. Cutaneous sensi-

bility is seldom much affected, and paræsthesia is distinctly rare.

In 107 cases the speech was more or less affected, generally as a later symptom. The movements of the tongue are occasionally affected; and the face and the muscles of mastication and deglutition are sometimes involved. Oculo-motor paralysis is rare, and the characteristic pupil of tabes is never seen, while nystagmus is a characteristic symptom of the late stage of the disease. On the other hand, vision is seldom affected and optic atrophy seldom or never occurs. Vertigo is occasionally present. Visceral disturbances, especially of the bladder, which are so common in tabes, are rare; and the various crises of tabes are never met with.

The present view as to the nature of the rapid process, which the author accepts, is that there is primarily an imperfect development of certain systems of fibres in the cord, due perhaps to a congenital smallness of the cord from an inherited tendency to vascular degeneration. In these imperfectly-formed fibres later on degenerative process develop in the form of a combined systemic disease. It is not yet clear whether there may be a diffuse secondary inflammation of other parts. The bulbar lesions thus far discovered afford no satisfactory cause for the bulbar symptoms observed during life, nor do we know the reason why sensory symptoms are so rare. Rütimeyer holds that the boundary layer of the posterior horn is not affected, which may be the cause, as it is constantly affected in tabes; but this requires further proof.

The disease is steadily progressive, although, as in tabes, temporary improvement may occur. The prognosis is hopeless, but the patient may live for many years, and usually dies of some intercurrent disease. Dr. Crozer Griffith's contribution is, as we have said, one of the most exhaustive that has yet appeared. It is enriched with very careful tables, and he has dealt with the material that has thus far appeared, so thoroughly that subsequent writers will have no need to do the work again.

ON THE VARIATIONS OF THE WEIGHT OF THE BODY IN TYPHOID FEVER.

Dr. L. H. Cohin has published a thesis in which he sets forth the daily variations in the weight of patients in typhoid fever. This publication is the result of studies pursued in Cochin Hospital, where, by a skilful contrivance, successive series of patients were carefully weighed every day, and the weight recorded on their charts, from the beginning to the end of the fever.

The observations of Dr. Cohin show that the loss of weight varies considerably for each individual. With some, it was 200 grammes (or between six and seven ounces) a day: this was the minimum. With others, it was 500 grammes (or rather more than a pound): this was the maximum. The mean of nine observations gives 400 grammes of loss per day; but on taking mild cases, free from complication, the mean fell to 320 grammes, which represents the daily loss in typhoid fever of average intensity. The mean of the daily gain, when convalescence was established, was 280 grammes (about nine ounces). The maximum of loss of weight corresponded to the end of the second week, or the beginning of the third. In reviewing the researches on the causes of the loss of weight in typhoid patients, the writer establishes the fact that the febricitant lives at the expense of his own substance.

The conclusions of these studies are as follows:

(1) Typhoid fever presents two distinct periods, one of loss and one of gain; certain accidental causes may modify them, but cannot affect their general character.

(2) The daily loss is due to febrile combustion chiefly, and but little to abstinence.

(3) The daily loss varies with individuals.

(4) The losses in nitrogen and in weight are almost parallel with the march of the temperature, without always following it exactly.

(5) The study of the weight-chart may aid in prognosis, a continual rise in the weight being a sign of convalescence.

(6) The complications of the disease augment the loss of weight.

(7) The study of the loss of weight enables the physician to determine with precision the action of nutritive substances in fevers.

(8) The loss of weight in a typhoid patient takes place each day in a uniform manner.

CONTRIBUTION TO THE STUDY OF THE INFLUENCE OF ALCOHOL ON PEPSIN.

Substances Antagonistic to Pepsin.

In a recent memoir, Dr. Henri de Nesslern reviews the current views respecting the influence of alcoholic preparations on pepsin, and especially the authoritative statements of Vulpian, based on the researches of his pupil Mourrut. It will be remembered that Vulpian condemned all the vinous or spirituous combinations of pepsin as inert and valueless, while Portes took a different view, affirming that it is only concentrated alcoholic solutions that have a damaging action on pepsin.

The questions considered by Nesslern are the following:

(1) Is pepsin soluble in alcohol and the aqueous solutions of alcohol?

(2) Does alcohol, even when considerably diluted, materially alter the properties of pepsin?

The results obtained are summed up in the following conclusions:

(1) The differences of opinion on the reciprocal action of alcohol and pepsin are due to the fact that the products employed were defective.

(2) A pepsin that will stand the test should not only dissolve, but peptonize albumen and fibrine.

(3) Good pepsin still preserves its digestive power in twenty per cent. alcoholic solutions.

(4) Pepsin is completely altered in its properties by seventy per cent. alcoholic solutions.

(5) As far as the wines and elixirs of pepsin are concerned, it is not by their alcohol that they render pepsin inactive, but probably by the tannin which they contain; and in the fabrication of such preparations, wines which contain little tannin should be chosen. For the *wine of pepsin* of the French Codex, Lunel wine is selected, as being most free from tannin.

According to Bardet, sugar does not impair the action of pepsin, and most of the salts are compatible with it. The presence of chloride of sodium diminishes its action, while this is enhanced by the salivary and pancreatic diastases, by liquors in process of alcoholic, acetic and lactic fermentation, by sour-crout, old cheese, etc. Lactic acid was pronounced *enpeptic* by Magendie, Claude Bernard, and Schiff, and recommended especially as a medicine by Handfield Jones. Hydrochloric acid, associated with pepsin, was a favorite remedial agent with Trousseau.

Among the substances antagonistic to pepsin should be mentioned the alkalies and alkaline bases, when in any considerable excess, as well as all metallic salts capable of precipitating it from its aqueous solution.

OPHTHALMIC MIGRAINE A MANIFESTATION OF HYSTERIA.

M. J. BABINSKI has reported several interesting cases occurring in the service of Professor Charcot, at the Salpêtrière, where attacks of ophthalmic migraine were directly dependent on hysteria, and constituted one manifestation of this neurosis.

In one of these cases attacks of hysteria were developed, and retroceded at the same time as the attacks of ophthalmic migraine. Moreover, the migraine sometimes preceded the convulsive attacks and constituted the aura; the latter was represented in other attacks by mutism. Now, as the mutism by its characters appeared manifestly to be of hysterical nature, it must have been the same with the migraine.

In another case the paroxysms of ophthalmic migraine were accompanied by hysterical manifestations, such as beatings in the temples, a sensation of constriction in the throat. It was also noted that these attacks (as is so often the case in hysteria) could be provoked by pressure over the ovarian region.

In another observation the attacks of migraine replaced genuine attacks of hysteria, and it was possible by hypnotization to reproduce and to arrest the hemicrania.

MEDICAL NOTES.

— The American Association of Obstetricians and Gynecologists will hold its annual meeting at the Burnet House, Cincinnati, O., on September 17th, 18th and 19th.

— It is proposed to endow a free bed in the Philadelphia Polyclinic Hospital, in honor of Dr. R. J. Levis, and a large committee of physicians has been formed to raise the $5,000 which is necessary for that purpose.

— The *New York Herald*, replying to a correspondent who writes to say that while scores of old men are applying for the Brown-Séquard elixir, in hope of living a few years longer, there is not a single reported case of a woman's trying the experiment, and asking if women have so hard a time that they don't care to live any longer than the allotted term, says that the real reason must be that women have more sense than men, and would rather die than be humbugged.

— There is a milkman at Brixton who has a ready wit that a lawyer might envy. One of his customers caught him watering his milk at a horse-trough the other day. "What!" said the customer, in a rage, "isn't it enough that your milk is full of typhoid without your going and watering it?" The milkman turned round, and smiling compassionately, said to two or three bystanders: "What can you do with a man like this? He actually wants his typhoid straight." — *Archives of Pediatrics.*

— The Nicaragua Canal Construction Company has just sent out to the Isthmus medical stores, cots, beds, surgical instruments, bandages, and all the equipment of a first-class hospital. The "Hondo," which sailed from New York on the 17th of August, carried with her a portable hospital capable of accommodating from eighty to one hundred persons. Dr. J. Edwards Stubbert went with the vessel. He will have superintendence of the hospital at Greytown. He was formerly connected with the Pacific Mail Steamship Company, and had charge of the Anglo-American Hospital in China at one time.

BOSTON AND NEW ENGLAND.

— Dr. Chase Wiggin, an aged physician of Providence, R. I., who neglected to report diphtheria cases to the department of health, was recently fined five dollars and costs in the District Court. It was the maximum penalty.

— The plans for the Mary Hitchcock Memorial Hospital at Hanover, N. H., have been formally accepted. Work will be commenced in season to complete the foundations this fall. The structure will be of brick, with Portland stone trimmings; about 200 feet long, with accommodations for thirty patients. The estimated cost, exclusive of land, is $50,000. The hospital corporation has organized with the following officers: President, Hon. Hiram Hitchcock, the donor; Secretary, Prof. H. A. Hitchcock; Treasurer, George Hitchcock; Trustees, Hiram Hitchcock, N. S. Huntington, George Hitchcock; Professors, J. K. Lord, A. S. Hardy, H. A. Hitchcock, E. J. Bartlett of Hanover; Professors, L. B. How, of Manchester; M. M. Field, of Newton, Mass., and Edward Cowles, of Somerville, Mass.

Miscellany.

AMERICAN SOCIAL SCIENCE ASSOCIATION.

THE American Social Science Association held its annual meeting last week, at Saratoga. The second day's meeting was devoted to the Department of Health, Dr. H. Holbrook Curtis, of New York, chairman of the department, presiding. Dr. Curtis made a brief address, and was followed by Dr. Pliny Earle, of Northampton, who read a paper on "Popular Fallacies Concerning the Insane," after which Dr. Stephen Smith, of New York, presented a report upon "The Commitment and care of the Insane," which brought out a good deal of discussion. This was followed by a paper on "The Dangerous Classes and the Modern Doctor," by Dr. Louise Fiske Bryson, of New York. In the dangerous classes the author included criminals, inebriates of all kinds, the insane, the feeble-minded, the illiterate, the poor and the uneducated. The poor, the illiterate, the uneducated, she maintained, are necessarily dangerous. When earning a living is impossible, stealing is inevitable. The pauper is compelled to use something he has not earned, and becomes at once dangerous and destructive. Restraint and labor are the great remedies for all these perverted faculties, and the doctor is indispensable to find and treat the cause of the morbid conditions. Dr. Frederick Peterson, of New York, discussed and opposed "Electricity as a Death Penalty," maintaining that there is a want of harmony between electrothanasia, as it takes place, and the humane ideal of death by electricity as it seems to have been pictured in the minds of the promotors of the new law.

At the evening session a paper was read by Rev. Charles R. Treat, of New York, on "Burial Customs in their Relation to Health," illustrated by the stereopticon, and one by Dr. Charles A. Harvey, also of New York, on "The Best Sanitary Disposition of the Dead." The dangers of the old system of inhumation were pointed out with much force, and those of cremation were also clearly and strongly stated. Dr. Harvey's plan contemplates a process of dessication of the dead in a mausoleum building especially provided for the purpose. The gases of decay are to be drawn off, or allowed to escape through conduits to a centrally located furnace, where they pass through combustion, so that nothing deleterious can escape. This meets the sentimental requirements of affection, guards against contemplation of crime by immediate destruction of the corpse, and prevents injury to the health of the living by any of the results or processes of natural decay.

NOTICE TO CANDIDATES FOR APPOINTMENT IN THE MEDICAL CORPS OF THE ARMY.

AN Army Medical Board will be convened in New York City, New York, October 1, 1889, for the examination of such persons as may be properly invited to present themselves before it, as candidates for appointment in the Medical Corps of the Army.

Application for an invitation should be addressed to the Secretary of War, stating date and place of birth; place and State of permanent residence, and accompanied by certificates, based on personal acquaintance, from at least two persons of repute, as to citizenship, character, and moral habits: testimonials as to professional standing, from the Professors of the Medical College from which the applicant graduated, are also desirable. The candidate must be between twenty-one and twenty-eight years of age, and a graduate from a Regular Medical College, evidence of which, his diploma, must be submitted to the Board.

There are at present nine vacancies in the Medical Corps of the United States Army, in the grade of Assistant Surgeon.

Further information regarding the examinations and their nature, may be obtained by addressing the Surgeon General, United States Army, Washington, D. C.

POSITION IMMEDIATELY FOLLOWING DELIVERY.

DR. CHARLES J. CULLINGWORTH, in his address in "Obstetrics," delivered at the meeting of the Bristol Medical Association, at Leeds, last month, took for his subject, "Some Further Applications of Antiseptic Principles of Midwifery Practice;" and in this connection spoke of the custom of strictly insisting on the maintenance of the horizontal posture for several days after a normal delivery. "For a long time," he says, "I have been disposed to agree with Goodell in doubting the wisdom of this. The question is not by any means a new one. More than a hundred years ago, Charles White, of Manchester, a Fellow of the Royal Society, and one of the most distinguished surgeons ever connected with the Manchester Infirmary, published a remarkable book, with which no doubt many of you are familiar, on the management of pregnant and lying-in women. In the chapter on the prevention of puerperal fever, there occur one or two passages on this subject of posture, which are so striking that I will, with your permission, read them to you: 'In a few hours after delivery, as soon as the patient has had a little rest, she should sit up in bed with a bedgown thrown over her shoulders. If she propose to suckle the child, it should now be laid at her breast whether there be signs of milk or no.' And, again: 'The patient should lie very high with her head and shoulders, and should sit up in bed many times in a day, especially when she takes her food and as often as she suckles her child, and should kneel whenever she has occasion to make water, which should often be done. This frequent upright position is of the utmost consequence and cannot be too much enforced. It prevents the lochia from stagnating, the stools and urine from being too long retained, and promotes the contraction of the uterus, together with that of the abdominal muscles.' How contrary is all this to what is now usually taught! Yet the plan here advocated is merely an application to midwifery practice of the great antiseptic principle of drainage."

FREQUENCY OF CERTAIN PREMONITORY AND AFTER SYMPTOMS IN EPILEPSY.

DR. H. A. HARE contributes to the *University Medical Magazine*, for September, an interesting analysis showing the relative frequency of premonitory and after symptoms in epilepsy, as shown by collecting all these isolated cases reported for various reasons in the journals and thus utilizing a large amount of scattered material heretofore wasted. Of the many thousands of such cases reported in English and

American journals within the past fifty years, only nine hundred and seventy could be found which contained one or more statements of the following points of interest: the side of the body most affected, the frequency of the aura and its character, the occurrence or absence of coma after or during the attack, and the occurrence or non-occurrence of rotation with the direction of rotation. The following results were reached: In only 158 instances out of the 970 cases collected, was anything said concerning the side most affected by the fit, and of those 158 cases it was found that the right side was most affected in seventy-seven instances, and the left was most affected in eighty-one instances, results which agree with the statistics of most other writers.

In respect to the frequency of the aura and its character, it was found that it was noted as present, in some form, in 362 cases out of the entire number, and absent in 138.

The forms of aura most commonly felt were as follows, being arranged in the order of their frequency: —

Tingling	45	"Gastric"	15
Visual	27	Cramps in muscles	11
"Painful"	26	"Olfactory"	11
Twitching	21	"Mental"	8
"Epigastric"	20	Chilliness	7
Headache	16	Faintness	3
"Auditory"	16	"Abdominal"	3
Dizziness	15	Aphasia	3
Numbness	15	Unclassified	44
Disturbed respirations	14		

The occurrence of coma is noted as present in 104 cases, and as absent in 12 cases, but this number is probably incorrect since unconsciousness is a much more common after symptom. It would appear, however, from the history of the cases that the coma in these instances surpassed in its severity the mental hebetude so often seen. In 101 cases only is any statement made as to rotation of the body in the fit, and of these, 49 rotated to the right and 52 to the left; so little difference as to make it appear that both varieties are equally common. It is not attempted to analyze these various symptoms in relation to the total number of cases, because such an attempt was not justifiable owing to the fact, that, through the carelessness of individual reporters any one of these symptoms may have occurred and yet not been recorded. The numbers represent very well, however, in a general way the relative frequency of these symptoms of epilepsy, and as they have been obtained solely from the isolated cases of the journals, they are in no way made up of material already used for analysis.

THE TREATMENT OF IDIOPATHIC CROUP WITH TURPENTINE.

THE *London Medical Recorder* translates from the *Bullétin Général de Thérapeutique* an article by Lewentaner on the use of turpentine in idiopathic croup. For some time past the author has treated his cases of diphtheria by means of the internal administration of rectified essence of turpentine with highly satisfactory results.

CASE I is that of a child, two years of age, in whom the diphtheretic process had extended into the trachea. So critical was her condition that the parents had reluctantly consented to tracheotomy being performed. Before having recourse to this last resort he determined to try Dr. Demelow's suggestion, and he gave the child a teaspoonful of rectified essence of turpentine. In about a quarter of an hour the stertorous respiration became quieter and calmer, and the little patient passed a quiet night, the aphonic cough having quite disappeared. The following day the child was practically convalescent.

CASE II was also that of a little girl, two and one-half years of age, who, when first seen was almost unable to breathe, all the extraordinary muscles of respiration being called into play. Tracheotomy was not practicable, and he therefore gave the same dose of essence of turpentine. The condition of the patient soon became relatively calm, although twenty minutes before the air only passed the larynx with the greatest difficulty. The cough which had been aphonic, became barking. The same evening, although the danger of asphyxia had disappeared, the symptoms of croup were present in all severity, but the parents refused to allow tracheotomy to be performed. Another dose of turpentine was therefore given, and on the following day the more urgent symptoms had disappeared, and all danger seemed to be passed. In two days the patient was quite well. In both these cases a cutaneous eruption followed the administration of the turpentine, but no trace of renal irritation could be perceived.

CASE III. On the seventh day of his illness, this patient, a boy, two years of age, was pale, livid, pulseless, and almost asphyxiated. Stenosis of the larynx was well marked. A dose of turpentine relieved the more pressing symptoms, and on following up the treatment the child gradually recovered, though noisy inspiration persisted for some time afterwards, attributed by the author to a thickening of the laryngeal tissues.

CASE IV. A boy, four years of age, suffering from diphtheria since eight days. This was one case of several, for there was an epidemic of croup at the time, six of which proved fatal. He found the same condition of quasi-asphyxia, with an aphonic cough and cyanosis. A spray of turpentine, eucalyptus, and carbolic acid in alcohol was ordered, and a teaspoonful of the essence given internally. The dose was immediately followed by a violent spasmodic attack of coughing, during which an abundance of false membranes and muco-purulent expectoration was got rid of. The shreds of membrane varied in length from one to three and one-half inches. The next day two other teaspoonfuls of the essence were given, one in the morning and one at night. Thereupon the child began to breathe more freely, took some nourishment and slept all night, except when awakened by the cough. On the second day one more dose was given without any apparent inconvenience. In four days the cure was complete.

OBITUARY. JOHN BOWNE KING, M.D., M.M.S.S.

Dr. King died in Nantucket July 27, 1889, aged eighty-one years, two months. He was born in New York City, and graduated from the College of Physicians and Surgeons in that city, in 1832, and after both hospital and private practice there, came to Nantucket in 1840, where he remained in active practice, with the exception of eleven months in San Francisco, until failing health compelled him to retire, a little over two years ago. He held the office of Medical Examiner from the time of its establishment, and that of Examining Surgeon for Pensions, until obliged to resign both on account of illness; was a Censor of the Massachusetts Medico-Legal Society, and a Trustee of the Massachusetts Agricultural College.

SOCIETY NOTICES.

AMERICAN ORTHOPEDIC ASSOCIATION. — The Third Annual Meeting will be held in Boston, in the building of the Boston Society of Natural History, at the corner of Boylston and Berkeley Streets, September 17, 18 and 19, 1889.

Tuesday, September 17, 1889. — Morning Session, 10 A. M. Business meeting, for the appointing of committees, etc ; 10.30 A. M. Address by the President, Dr. E. H. Bradford, American Orthopedics. Spondylitis after Typhoid Fever, Dr. V. P. Gibney, of New York. The Relation of the Thoracic and Abdominal Wall to the Spinal Column considered with Reference to the Treatment of Anterior-posterior Curvature, Dr. L. A. Weigel, Rochester, (by invitation). Psoas Contraction as a Symptom, Dr. Dillon Brown, New York. Double Congenital Dislocation of the Hip, Dr. Samuel Ketch, New York. Afternoon Session, 3 P. M. A Case of Caries of the Ankle treated Conservatively, Dr. C. C. Foster, Cambridge. A Report of Cases of Caries of the Ankle treated by Excision (with exhibition of patients), Dr. Charles L. Scudder, Boston (by invitation). The Value of Motion in the treatment of Hip Disease, Dr. W. R. Whitehead, Denver. Rest in the Treatment of Hip Joint Disease, Dr. De F. Willard, Philadelphia. Abscesses in Hip Disease, their Prevention, Significance and Treatment, a clinical study, Drs. R. W. Lovett and J. E Goldthwaite, Boston.

Wednesday, September 18, 1889. — The Morning Session, at 10.30 A. M. and the Evening Session at 8.30 P.M , will be devoted to short papers on the treatment of hip disease, after which there will be a general discussion of the subject by the members. It is hoped that in this way the opinion of the Society may be formulated. Subjects will be discussed as follows: Dr. Shaffer, The principles of treatment; Dr. H. L. Taylor, The mechanical treatment; Dr. J. E. Moore, The hip splint: Dr. Steele, The early local treatment; Dr. De F. Willard, The operative treatment; Dr. R. H. Sayre, Excision of the hip; Dr. Ridlon, Fixation and traction in the treatment; Dr. Gibney, Mechanical *vs.* operative treatment. Afternoon Session, 3 P. M The Society will meet in the lecture-room of the out-patient building of the Children's Hospital (Huntington Avenue). Papers will be read on An Experimental Study of Distraction of the Hip Joint, by Dr. E. G. Brackett; An Analysis of twenty-one Cases of Hip Disease treated by the Thomas Splint, by Mr. John H. Huddleston; and The After-Treatment of Hip Disease, by Dr. A. B. Judson. After which orthopedic cases will be shown. Members who desire it will have an opportunity to visit the hospital wards.

Thursday, September 19, 1889. — Morning Session, 10 A. M. The Treatment of Pes Equino Varus, Dr. Henry Ling Taylor, New York. Is Rotary Lateral Curvature of Rachitic Origin? Dr. G. W. Ryan, Cincinnati. A New Exercise in the Treatment of Lateral Curvature of the Spine, Dr. A. J. Steele, St. Louis. 12 o'clock. Business meeting, election of officers, etc. Afternoon Session, 3 P. M. The Treatment by Portative Appliances of Ununited Fracture of the Thigh, Dr. Newton M. Shaffer, New York. Operations upon the Spine for the Relief of Pressure Paralysis, with the report of a case, Drs. Herbert L. Burrell and W. N. Bullard, Boston (by invitation). A Case of Functional Torticollis, probably due to defective eyesight (with exhibition of patient), Dr. R. W. Lovett, Boston. A Case of Congenital Absence of Five Ribs, with resulting Deformities, Dr. Homer Gage, Worcester (by invitation). Exhibition of appliances and apparatus.

R. W. LOVETT, M D., *Secretary and Treasurer*,
113 Boyston Street, Boston.

AMERICAN ACADEMY OF MEDICINE — The Annual Meeting of the Academy, for 1889, will be held at Chicago, Ill., November 13th and 14th, being postponed to that date by authority of the Council.

RICHARD J. DUNGLISON, *Secretary*.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 31, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	675	323	27.00	11.55	15.75	2 55	4.50
Philadelphia	1,040,245	—	—	—	—	—	—	—
Chicago	830,000	389	238	41.86	4.42	29.90	4.16	5.98
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	168	78	23.40	10.20	16.20	3.00	.60
St. Louis	450,000	—	—	—	—	—	—	—
Boston	413,567	218	95	28 06	11.96	19.32	3.22	3.68
New Orleans	250,000	—	—	—	—	—	—	—
Cincinnati	225,000	105	—	19.95	—	9.50	.95	9.50
Washington	225,000	92	33	27.82	13.91	11.77	5.35	7.49
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	26	14	19.25	3.85	15.40	—	—
Charleston	60,145	44	17	20.43	6.81	17.16	2.27	—
Portland	40,000	17	5	29.40	18.04	23.52	5.88	—
Worcester	78,292	29	15	31.05	6.90	27.60	—	3.45
Lowell	71,518	39	16	25.60	12.80	5.12	7.68	12.80
Cambridge	65,552	23	12	43.50	8.70	26.10	4.35	4.35
Fall River	62,647	29	20	34.50	—	27.60	6.90	—
Lynn	53,334	19	8	5.26	5.26	—	—	—
Springfield	40,731	21	6	38.14	—	23.80	9.52	4.76
Lawrence	40,619	27	13	59.20	—	25.90	—	33.33
New Bedford	37,253	16	8	12.50	25.00	—	12.50	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	5	3	60.00	20.00	60.00	—	—
Salem	29,011	13	—	7.69	7.69	7.69	—	—
Brockton	28,813	6	3	16.66	33.33	16.66	—	—
Chelsea	28,167	8	3	12.50	12.50	12.50	—	—
Haverhill	26,058	—	—	—	—	—	—	—
Taunton	25,170	—	—	—	—	—	—	—
Gloucester	24,263	12	4	8.33	8.33	—	—	—
Newton	21,553	—	—	—	—	—	—	—
Malden	19,774	6	4	33.33	—	33.33	—	—
Fitchburg	17,534	10	4	—	20.00	—	—	—
Waltham	17,332	4	3	50.00	—	50 00	—	—
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	—	—	—	—	—	—	—
Quincy	13,728	4	1	25.00	25.00	—	—	25.00

Deaths reported 2005: under five years of age 926; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas, and fevers) 586, consumption 180, acute lung diseases 127, diarrhœal diseases 372, diphtheria and croup 97, typhoid fever 63, whooping-cough 26, scarlet fever 9, malarial fever 10, cerebro-spinal meningitis 5, measles 2, erysipelas 2. From whooping-cough, New York 14, Chicago and Boston 3 each, Baltimore 2, Washington, Cambridge, Lynn and Gloucester 1 each. From malarial fever, New York 7, Baltimore 2, Nashville 1. From scarlet fever, Chicago 3, Baltimore and Washington 2 each, New York and Boston 1 each. From cerebro-spinal meningitis, New York 3, Cambridge and Somerville 1 each. From measles, New York and Chicago 1 each From erysipelas, NewYork, 2.

The meteorological record for the week ending Aug. 31, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps: –

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, Aug. 31, 1889.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.		8.00 P. M.	Daily Mean.	8.00 A. M.		8.00 P. M.	8.00 A. M.		8.00 P. M.	8.00 A. M.		8.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,..25	30.24	64.0	68.0	59.0	85		87	86.0	O.		E.	0		6	O.		C.		.0
Monday,..26	30.36	64.0	68.0	60.0	84		84	84.0	N.E.		N.E.	12		12	O.		C.		.0
Tuesday,..27	30.36	69.0	65.0	54.0	91		75	83.0	N.E.		E.	7		4	O.		C.		.0
Wednes..28	30.28	58 0	65.0	52.0	84		84	69.0	N.		E.	1		7	F.		C.		.0
Thursday, 29	30.19	60.0	66.0	55.0	84		89	86.0	N.E.		E.	4		6	O.		C.		.0
Friday,....30	30.12	65.0	74.0	56.0	94		77	86.0	N.		S.W.	1		9	F.		C.		.0
Saturday,.31	30.19	70.0	76.0	64.0	68		82	75 0	N.		E	8		1	C.		C.		.0
Mean for Week.																			

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 24, 1889, TO SEPTEMBER 6, 1889.

Leave of absence for one month, with permission to apply through Division Headquarters for an extension of two months, is granted Major BENJAMIN F. POPE, surgeon in U. S Army Par 7, S. O. 54, Department of Texas, August 17, 1889.

By direction of the acting Secretary of War, Major WILLIAM S. TREMAIN, surgeon, now on sick leave of absence at Buffalo, N. Y, will report in person to the commanding general Department of the Missouri for assignment to temporary duty at the post of Fort Leavenworth, Kansas. Par. 4, S. O. 198, A. G. O., August 27, 1889.

PROMOTIONS.

Captain WASHINGTON MATTHEWS, assistant surgeon, to be surgeon with the rank of major, July 10, 1889, vice Town, appointed.

To be assistant surgeons with rank of Captain, after five years' service, in accordance with act of June 23, 1874.

Assistant Surgeon CHARLES B. EWING. July 5, 1889.

Assistant Surgeon WALTER D. MCCAW. August 20. 1889.

By direction of the Secretary of War a Board of medical officers to consist of Colonel EDWARD P. VALLUM, surgeon; Major HENRY MCELDERY, surgeon; Major WASHINGTON MATTHEWS, Surgeon; Captain JAMES C. MERRILL, assistant surgeon; is constituted to meet in New York City on the first day of October, 1889, or as soon thereafter as practicable, for the examination of assistant surgeons for promotion and of candidates for admission into the medical corps of the army. The Board will be governed in its proceedings by such instructions as it may receive from the surgeon general. Par. 1, S. O. 205, A. G. O. September 2, 1889.

Leave of absence for two months on surgeon's certificate of disability, is hereby granted Major P. J. A. CLEARY, surgeon U. S. Army. S. O 59, Headquarters Division of the Pacific. San Francisco, Cal., August 31, 1889.

The resignation of Captain Joseph Y. Porter, assistant surgeon, has been accepted by the President to take effect August 29, 1889. Par. 11, S. O. 200, Headquarters of the Army. A. G. O. August 29, 1889.

Leave of absence for twenty-one days is granted Captain CHARLES B. EWING, assistant surgeon, to commence on or about September 21, 1889, provided that at that time the post surgeon now on leave has returned to duty. Par. 5, S. O. 201, Headquarters Division of the Atlantic. Governor's Island, N. Y., September 4, 1889.

Leave of absence for fifteen days is granted First Lieutenant W. B. BANISTER, assistant surgeon. Par. 2, S. O. 82, Headquarters Department of Arizona. Los Angeles, Cal., August 25, 1889.

The garrisons of Fort Laramie, Wyoming, Fort Hays, Kansas, and Fort Lyon, Colorado, will be withdrawn, and the posts named will be abandoned as soon as it can be done with due regard to economy. G. O. 69, A. G. O. August 31, 1889.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING SEPTEMBER 7, 1889.

F. S. NASH, past assistant surgeon, detached from the "Dale" and ordered to duty in the Bureau of Medicine and Surgery.

A. C. H. RUSSELL, past assistant surgeon ordered to naval hospital, "Yokohama," per steamer of September 28th.

C H. H. HALL, past assistant surgeon, detached from naval hospital, "Yokohama," on reporting of relief, and return home.

S. S. WHITE, assistant surgeon, detached from naval hospital, New York, and ordered to "Minnesota."

E. P. STONE, assistant surgeon, detached from the "Minnesota." and wait orders.

P. H. BRYANT, assistant surgeon, detached from the "Ajax," and ordered to naval hospital, Norfolk, Va.

A. R. WENTWORTH, assistant surgeon, detached from naval hospital, Norfolk, Va., and await orders.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTJES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING AUGUST 24, 1889.

LONG, W. H., surgeon. To proceed to Gallipolis, Ohio, as inspector. August 7, 1889.

WHITE, J. H., passed assistant surgeon. Granted leave of absence for thirty days, on account of wound. August 16, 1889.

CONDICT, A. W., assistant surgeon. Detached from Revenue Bark "Chase," and ordered to Louisville, Ky., for temporary duty. August 19, 1889.

GROENEVELT, J. F., assistant surgeon. Ordered to South Atlantic Quarantine Station for temporary duty. August 8, 1889.

BOOKS AND PAMPHLETS RECEIVED.

Thirteenth Annual Announcement of Ensworth Medical College and Hospital, St. Joseph, Mo. Session 1889-90.

Thirtieth Annual Announcement and Catalogue of the Hahnemann Medical College and Hospital, of Chicago, Ill. 1889–90.

Electrical Distribution of Light, Heat and Power. With partial List of Deaths from Electric Lighting Circuits. New York. 1889.

Report for the year 1888–89, Presented by the Board of Managers of the Observatory of Yale University to the President and Fellows.

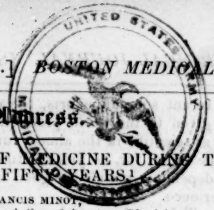
Distended Gall-Bladder, Simulating Floating Kidney, Cholecystotomy by the Lumbar Incision. By J. Ewing Mears, M.D., of Philadelphia. Reprint, 1889.

Essentials of Pathological and Morbid Anatomy. By C. E. Armand Semple, B.A., M.B., Cantab, etc. With 46 illustrations. Philadelphia: W. B Saunders. 1889.

Report of a Case of Stricture of the Rectum, the Probable Result of a Specific Vaginitis. By Lewis H. Adler, Jr., M.D., Late Resident Physician, University Hospital, Philadelphia, Pa Reprint. 1889.

Congrès pour l'Etude de la Tuberculose Chez l'Homme et Chez les Animaux. Première Session, 1888. Président, M. le Professeur Chauveau. Comptes rendus et mémoires publiées sous la direction de M. le Dr. L. H. Petit, Secrétaire-général. Paris: G. Masson, Editeur. 1889.

Recherches cliniques et thérapeutiques sur l'Epilepsie, l'Hystérie et l'Idiotie. Compte rendu du service des épileptiques et des enfants idiots et arriérés de Bicêtre, pendant l'année 1888. Par Bourneville, Courlarion. Raoult et Sollier. Tome IX de la Collection. Volume in 8vo, 92 pages, avec 25 figures. Paris: Publications du *Progrès Médical*.



Address.

THE PROGRESS OF MEDICINE DURING THE LAST FIFTY YEARS.[1]

BY FRANCIS MINOT,
President of the Association of American Physicians.

If we consider the progress which medical science has made during the past fifty years, and its position at the present day, we are led to hope that the time is not far distant when the healing art will approximate in certainty to the exact sciences. Not many years ago, for example, it seemed impossible that a correct diagnosis of the principal structural diseases of the brain and spinal cord could ever be attained; and yet we are now almost as familiar with their characteristic symptoms, and with the nature and anatomical situation of their lesions, as with those of the lungs, the heart or the pleura. The twin departments of physiology and pathology (the former was born almost within the memory of some of us) have made immense strides, and, along with improved methods of clinical observation and research, have aided more than anything else in the advancement of our knowledge of disease and its treatment during the past half century. Bacteriology has revolutionized our notions of the causes and nature of many diseases, and of their proper management. A great amount of useless and pernicious medication has been abandoned, while the number of valuable remedies has been increased. The principle of prevention is advancing in proportion to our increased knowledge of the causes of disease, and hygiene has become an important branch of medical education. Even in tuberculosis, the most wide-spread and fatal of maladies, the results of prophylactic treatment, founded in part on the great discovery of Koch, are found to be most encouraging; and it is not unreasonable to hope that the disease may in time become as controllable as is small-pox at the present day.

Many other recent advances in medicine readily occur to us. I need only mention the progress in State medicine, in public hygiene, in the construction of hospitals, in our acquaintance with the laws of climatic treatment of disease; passing by many others which the limited time at my disposal prevents me from noticing. In no department of medicine, however, has development been more conspicuous than in that of teaching. Formerly, good teachers were rare, and students were compelled to acquire what knowledge they could chiefly by listening to didactic lectures. In my day there was but one teacher in clinical medicine in Harvard Medical School, and he could give but little time to it, being at the same time professor of materia medica; whereas now clinical teaching has to a great extent supplanted didactic lectures in all medical schools. New departments for the study of various specialities have been created, and provided with competent teachers and well-equipped laboratories, and it cannot be long before a full course of at least four years' study will be required of every applicant for the degree of doctor of medicine.

Did time allow, it would be interesting to study the causes of this great advance in medical science, but I can barely allude to them. In many respects they are the same as in the case of other sciences, both physical and moral. Each step forward of one helps the growth of others. Medicine is almost as much indebted for the position it now holds to biology, to chemistry and other branches of physical science, and even to mechanical art, as to clinical observation and pathology. Electricity puts us in touch with the whole civilized world, and every new discovery in science and art is immediately announced from one hemisphere to the other. Communication between distant regions is abridged by railroads and steamships; and scientists whose homes are thousands of miles apart can come together with comparative ease, for the interchange of knowledge. We must, indeed, ascribe to the more frequent professional intercourse which we enjoy a prominent influence on the growth of medical science, as of science in general. In small communities physicians do not often meet for the discussion of medical subjects, and stagnation of ideas is apt to arise from the lack of diffusion of personal knowledge; but when large numbers are gathered together from distant parts, differences of experience and observation give rise to discussion and to the development of new ideas. We find, for instance, that diseases may vary in clinical aspect, in severity, and in methods of efficient treatment, according to geographical situation, climate, elevation, race and modes of life. Some are more or less strictly confined to certain regions, and our knowledge of them must be obtained from observers living in those regions, or visiting them. The treatment of disease, both general and special, often varies much in different countries and in different parts of the same country. In some it is active, including a large amount of medication; in others it is more passive, being directed rather to the condition of the patient and to the special symptoms which he exhibits, than to the disease itself. Certain wide-spread diseases, specific in their nature and self-limited in duration, are found to be but little influenced in their mortality either by geographical locality or by different and opposite modes of treatment; while, on the other hand, age, constitution, habits, and complications play a much more important part in the result. This is strikingly shown in the various papers on the mortality of pneumonia which have appeared in different medical journals during the past year.

It is not easy to overrate the great influence of the medical press in elevating the standard of the profession, and in the diffusion of scientific knowledge in all parts of the world, by the publication of original articles, clinical and other lectures, reports of interesting and instructive cases, and proceedings of societies and conventions. Thousands of practitioners who are unable to leave their homes are thus brought into communication with the highest authorities in medicine, and can avail themselves of the most recent advances of medical science.

Finally, we must recognize as one of the great advantages of medical conventions the privilege of becoming personally acquainted with men from all parts of our country whom we have hitherto known only by reputation, or through their writings. In this way the profession is more closely drawn together, sectional prejudices are allayed, harmony of ideas on the subject of medical improvement is promoted, and the foundation is laid of enduring and delightful friendships.

The organization of this Association is peculiarly adapted to aid the progress of medical science. It

[1] The President's Address before the Association of American Physicians, delivered at Washington, Wednesday, September 18, 1889.

represents no one section of our country, but includes practitioners from all parts of the United States and Canada, whose experience, observation, knowledge, and ability are brought together for comparison and for mutual instruction. The programme for the present session includes many subjects of interest and importance, and its length warns me that I must no longer trespass on your time.

Original Articles.

SCIENTIFIC WORK BY ALIENISTS.

BY F. B. STEPHENSON, M.D.,
Surgeon, United States Navy, A. A. S.

IN a recent issue of the *Nineteenth Century* is published, under the title "Lunatics as Patients, not Prisoners," a semi-professional article by John Batty Tuke. A fair amount of expert knowledge is necessary to the adequate appreciation of his remarks: we may also bear in mind that he is at the head of a private asylum for insane.

From the above paper it appears that in England, the taxpayer, seeing a steady increase of pauper lunacy, is inclined to think the millions of money furnished for the arrest of such disease not judiciously expended; that the public look fruitlessly for any manifest indication that the specialty which professes the treatment of insanity has kept abreast in the onward march of science; that grave and deep-seated faults underlie the system of management; a doubt arising as to whether mere philanthropy has not absorbed the pabulum which should have given life and strength to really kind science. The ultimate object of the numerous establishments — the greatest good, that is, cure, of the insane — has not been obtained, because the best methods have not been adopted. While it seems ungracious to demonstrate the failure, in any degree, of philanthropic schemes, yet, if we are to progress, experience should be bold in criticism. Although it is a primary duty of the State to protect, affording refuge is not the highest function of an asylum. To quote the author, "The structure and arrangement of any one of our pauper asylums," with "the constitution and duties of its medical staffs," show that the "organization was begun on the motive of protection and under the psychological (non-modifiable by treatment [?]) theory of insanity." "But what has been done for the disease of the brain? We seek in vain in our asylums for any evidence of systematic inquiry" and treatment based on modern notions of cerebral physiology. We find, indeed, chapels, ball-rooms, cricket-grounds, but no hospital or laboratory for psycho-pathologic research. To copy, again, his words, "Committees have but little sympathy with the scientific view. So far is this the case that I have known candidates for appointments objected to on the ground that they had scientific proclivities, and had no knowledge of farming." This original plan has undergone little if any modification down to the present day, while a century of observation has been lost and hundreds of misdirected lives of good men wasted or frittered away. If this be thought strong language, compare the work done since 1850, regarding the pathology of the brain and spinal cord, with what has been accomplished by specialists in lunacy. Save a few recent sporadic efforts, the veteran Calmeil only has given to the world productions worthy consideration as scientific in the almost future branch, psychiatric medicine: for, as yet, treatment is entirely empirical, depending mainly on good hygiene and personal experience.

Dr. Tuke makes pertinent recommendations as to appropriate disposition, style, and expenditure in architecture; changes in supervisional and medical duties; furnishing apparatus for observing, treating, and teaching; and the benefits which will therefrom ultimately reach the public. Physicians in asylums should be allowed to fulfil the proper duties of their office, but not be required to do the custodial routine service for which properly-trained attendants are quite competent. More cures might, in such conditions, be expected, and time secured for original investigation, progress, tending toward evolution of a rational system of treatment.

Concerning alleged difference in principles of management by the English and Scottish, he states that such does not exist, unless it be in the point of administration, efficient supervision over a limited area being the practice in the northern realm. Of bills lately proposed for legislation he strongly combats those which (besides other defects, some of them doubtless due to their being drawn up by lawyers only) permit especial privileges to existing private asylums.

The questions above treated, while not altogether new are of such importance that they may well be brought repeatedly to the attention of a public interested in both the welfare of the individual now needing care, and the scientific investigation that will inure to better guidance of future sufferers from enfeebled or disordered mind. Despite yet existing impediments to the cure of acute cases, and embarrassments in the care of the chronic insane abroad (which evils are apt to become of great moment in this developing nationality), recent literature upon the condition of lunatics in the Old World inclines us to have a somewhat more optimistic opinion than that given in Dr. Tuke's paper. The limits of this review, however, compel us to restrict the present survey rather to facts and projects of our own country.

In America, during recent years, the great number of applications for admission to asylums, and the pressure to provide accommodation for inmates put upon those in charge of administration, have hitherto practically prevented extended scientific work. It has been rather a period of asylum-hospital construction. The capable superintendent is presupposed to possess professional and moral qualifications of a high order, being charged with delicate and responsible duties, in the proper performance of which every citizen of the State is deeply interested. Though illumined by the philosophic spirit, and enthusiastic with faith in the gospel of science, he has been, therefore, necessarily almost exclusively occupied with the business of direction; has not had time to give his personal oversight to details of original research, or to use his own fingers in manipulation of the microscope and other appliances: yet he is abundantly able to indicate what course skilled observers may wisely follow in old or in newly-found fields of work and experiment, and to lay out the tasks with which others can be productively employed.

Granting that European institutions are, perhaps, in some ways, more fully equipped as regards hospital

adjustments (mechanism of moral treatment), and more fruitful in publications of value, a careful reader of current literature *in re* may notice that, in this country specialists in lunacy are aroused, and are doing creditable work for science (*V. inter alia, The American Journal of Psychology* and *The American Journal of Insanity*); while at the same time actively engaged in details of administration and the psychic treatment of their patients in the line of occupation and recreation: which latter is often quite as important in remedial effects as more formal schematic or technical endeavor.

Of by no means secondary value in this connection are the physical conditions allowing the patient to be put under beneficent influences with respect not only to the outside world, but also with his companion-inmates mentally sick; conditions that may be supplied by a "flexible hospital-asylum architecture." There seems to be a tendency to limit unduly the meaning of the expression, "scientific work." As Sir James Paget says, "The sick-room is a laboratory with its crucial experiments:" the same is due of the other physical adaptations before mentioned. In the latest-formed and best colleges for higher education (besides provisions removing the thralls of poverty from young talent), thorough preparation, complete facilities, etc., exist, or are being perfected, for the study of psychology, with a comprehensive biology. These are fields of research wherein progress in knowledge, involving promise of future scientific product and consequent practical benefit, now appears most likely. Great stress is also laid upon the importance of "leisure and tranquility" for the accomplishment of veritable, serviceable culture. Considering these things, one is led to think that, if such conditions are recognized as necessary to the normal functions of the average healthy brain, how much more are they needed for arrest or cure, through guidance, of morbid action in one weak and diseased. And this is as truly "scientific work" as the publishing of formal treatises. Our Scottish *confrère* need not fear contradiction when he writes: "What every asylum requires in order to become a truly curative institution is a hospital for the treatment of recent and acute cases, separate and distinct from the main establishment, to which each patient should be consigned on admission." May we suggest, moreover, that the feature of separatism should form the central idea of any hospital-asylum plan, and not be looked upon as of secondary moment? In regard to the bearing of the study of long-seated disease on the cure of insanity, however, he appears to be of an opinion different from that of the critic, Frederick Bryan, who thinks that the close observation of chronic symptoms and subsequent morbid conditions are just as important as the study of recent cases for the amelioration of acute manifestations by treatment; and, indeed, may give far more valuable results (to appear, we may presume, in the better understanding of normal and pathologic psychology). The present apparent hopelessness of cure in instances of confirmed malady should be a stimulus instead of a bar to its careful investigation by men of science. "The cure of the curable insane is one thing: the care and treatment of the insane generally is another. The former is purely a medical question: the latter a social one." Both have undergone, and are susceptible of further great modification for the better, through the practical application of results due to systematic research and experiment.

Unquestionably great progress has, within the last decade, been made in the United States, for the public care of the insane. Though also much improved, the defects of existent arrangements for private care of the insane are recognized, and there is already evidence that an adequate provision therefor will be made in the early future. The amount of change, quietly made, is equivalent to almost a revolution. The constituent *motifs* of the hoped-for resultant harmony may be stated: the creation of trained attendants, faithful, and humanely sympathetic; better systems of classification; allotment of more space and personal liberty; segregation, and greater individualization of treatment; limited number of patients; improved surroundings; increased employment and occupation, with skilfully-directed incentives to action. Institutions for the chronically insane, says Dr. Chapin (the eminent American alienist, in his recent annual address), being brought under the recent comprehensive policy, we should make a further advance toward the best treatment of acute cases.

Some forms of insanity seem to consist of outbursts of psychic force; and in these tonic treatment appears effective: patients with exhaustive mania assimilate several times the average quantity of aliment. Materia Medica furnishes new remedies whose powers are being tested. "Therapeutic suggestion" is not forgotten. Mortality from acute forms has declined; and if but a small proportion of recoveries appear in various returns, it should be borne in mind that such reports include a large number of chronic cases. "Commendable work is being done in the better preparation and record of cases, and the microscopic sections; also, by aid of photography." Yet, as Dr. Savage remarks: "There is still a deep ditch of ignorance between us and the true pathology (and for that matter, physiology) of mind; and this ditch has to be filled by those who sacrifice their time and their energies in steady, unremunerative labor." The New Psychology may help to show the way to solve some of the many important problems that arise to confront alienists in their daily work.

As an example of results due to the spirit animating advanced workers in these matters, we may refer to what is being done by one of the New England asylums within our own knowledge. The institution in mind, the McLean Asylum, has a competent official (termed, perhaps, psycho-pathologist) who is allowed to use his entire time for clinical (psychic and physical) observations, to be later compared with gross and microscopic anatomical appearances. This gentleman, having received a thorough general professional education, enjoyed the advantages of training in the advanced schools of the old world, and being appointed on a salary sufficient for a reasonable living, enters upon his life-career. During three months of each year he is granted leave of absence, so that rest and visits to other centres of activity may better enable him to accomplish, in his own line of duty, something of value. A correspondingly appropriate laboratory is in preparation. The natural outcome of such a plan will be to maintain an intelligent continuity of strictly scientific work, to which other officers of the institution will contribute (although for the greater part of their time immediately occupied with clinical detail), and by which they will be stimulated to more critically exact investigation of psychologic problems.

Another model feature of this refuge for the insane

is a school wherein nurses are taught, at first, duties in the care of any sick person; and, progressively receive instruction regarding the special skill requisite for those who take beneficent charge (physical and psychological) of the mentally ill. They are also trained in the practical application to therapeutic uses, by newest scientific methods, of systematic physical exercise (an enlargement of the massage principle), adapting it to the special need of each patient, as exemplified in a lately-completed gymnasium. "The success of asylum management and of hospital treatment is without doubt largely dependent on maintaining a good corps of intelligent and faithful attendants." By this mode of teaching, of preparation for a life-work (one highly honorable), the advantage of the learner and benefit of the general public in want of skilled service, are alike secured. The indirect good of such enlightenment upon the prosperity of the Commonwealth is not unworthy consideration by our State and municipal authorities. This new departure exerts an influence not limited by territoral confines.

While much energy is expended, especially by older men, on the urgent providing for the present physical well-being of the patient, as a matter of primary necessity, nevertheless, an observing, active alienist may see that the modern scientific touch has awakened the spirit of Young America to bend its nascent energies toward earnest, methodic effort. If, as yet, pathology has furnished comparatively little of use in prophylaxis or therapeusis, is this sufficient reason for decrying research in directions warranted by positive advances in alienism, as well as by excellent results in other fields of thought and inquiry? Experiences accumulated from year to year make just our hope in a future full of promise.

These expert men must be obtained in order that the *matériel* be best utilized, both for the direct good of individuals and their future betterment through progress in knowledge, that is, "scientific work." Students (aspirant or actual) need only relief from the burden of self-support to allow them free course in the laborious, persistent endeavor toward which a laudable ambition urges. The doing of creditable work requires steady, reliable aid on the part of those in real, proximate control; and by those who can supply means necessary to keep an active, educated man in physical, mental, and moral health, such as food, exercise, rest and recreation, encouragement, criticism, and judicious approval. As an able and conscientious alienist physician has lately written: "The hope of advancement in the care and cure of the insane lies largely in the perfection of the appliances (and, may we add, a trained *personnel?*) with which we have to work, both for promoting the present welfare of the sick and for the prosecution of scientific inquiry."

The Government (possibly through the agency of the Smithsonian Institution) might serve the general public by forming a "repository of hospital plans;" those in charge, besides having other pertinent duties, being empowered to secure information from foreign sources, "which ought to be accessible, and would prove instructive to medical men, commissions, and State officials." One immediate effect of this knowledge should be the much-needed improvement in the condition of the insane now in our county almshouses; although mere "politics" yet seem to have an undue influence as to the control of such "homes" for the poor and friendless. So long as the permanence of officials, lay or medical, at the post of duty, depends upon the current local election, we cannot expect either good performance of ordinary executive functions or professional results of scientific value: mediocrity, even, is hardly to be anticipated. We commend for study the system of dealing with the insane in county asylums practised in Wisconsin.

Letchworth's admirable book, "The Insane in Foreign Countries," contains succinct data upon the excellent methods of hoary antiquity, when psychology was recognized as a department of medical study. It is an historic summary, and a vivid pen-picture, by an experienced expert, of the contemporary status of European remedial and custodial measures in lunacy. This timely volume affords much of value for those of our citizens occupying positions to influence public opinion toward a wise care of those whom proper and prompt action may save from permanent disease. The author prophetically says: "In America, where, from a variety of causes, there is so much mental activity, and where a condition of great prosperity attracts the surplus population of Europe, there are obvious reasons why the various problems relating to insanity should receive most careful attention."

ESCHAROTICS IN THE TREATMENT OF MALIGNANT DISEASE.[1]

BY JOHN C. MUNRO, M.D., BOSTON.

IN reviewing the history of escharotics in the treatment of cancer, one meets on the one hand with assertion, honesty and implicit faith; on the other with denial, dishonesty and bigotry. Each particular drug has a champion ready to defend it by fair means or by foul, and to give a just verdict to the claims of each champion is by no means an easy task.

One main fact, however, must be maintained here from the very beginning: escharotics are not best and safest for the treatment of cancer in even a fair proportion of cases. The knife or the sharp spoon stand preëminently *the* method of treatment, and it will stand so until some specific is finally discovered; but there are a small number of cases where the use of the knife is impracticable or impossible, or where a fear of its use makes it impracticable; in these, caustics, if any treatment is possible, can and ought to be used.

With regard to immunity from recurrence after removal by caustics there are no data in all history that warrant one to conclude in favor of caustics over the knife; without question the chances are just as good and just as bad in either case, *cæteris paribus*.

The best observers are furthermore agreed that where the treatment is undertaken it must be steadily and vigorously pushed, not done in a half-hearted manner; and by observing proper precautions there should be no especial danger.

Individual cases and statistics will be avoided in what follows; a great many have been carefully analyzed, but they are of such a nature that their value in deciding, absolutely, any question, is almost *nil*, and it has seemed best to give only general conclusions. The various important caustics will be considered in order, and then an outline of the history of their uses, together with that of the most famous men (both honest and dishonest) connected with them.

Next to the actual cautery, which is painful, limited

[1] Read at the annual meeting of the Massachusetts Medical Society, June 12, 1889.

in its action, often more dreaded than the knife, and useful only in a small proportion of cases, the strongest escharotics are the mineral acids. Of these nitric acid is most generally used. It is energetic but difficult to manage, so that ordinarily its employment is limited to the destruction of the epidermis over tumors for the subsequent action of other escharotics, or to the application in small superficial malignant growths. Rubbed up with charpie to a gelatinous mass it is more under the control of the surgeon.

Sulphuric acid mixed with some substance like saffron, lampblack, asbestos or sulphate of zinc, was considerably used at one time; it makes a dry, black crust that is rapidly cast off, but it seems to be inferior to the alkaline caustics. Hydrochloric acid and nitro-hydrochloric acid are of less value than nitric acid.

Acetic acid has been used mainly in subcutaneous injections into the tumor. This method of using it, though probably not original with Broadbent, was strongly advocated by him in 1866. He was led to its use from noticing the effect of the acid on tissues under the microscope; that is, a shrivelling up of the cancer cells without coagulation of the albumen. In 1867, Moore showed before the London Pathological Society a cancerous gland that had been injected, during life, with the acid, one part to three parts water. The gland consisted of a thin shell with contents of a light brown inodorous pulp containing pools of free oil, while on microscopical examination very few cancer-cells were to be seen. When successful, apparently a sloughing of the tumor takes place with discharge of the cancer elements, leaving a clean granulation wound behind. Tillaux, Maisonneuve and Langdon, after trial, gave up the method as dangerous and inefficient. Of late years, however, Gies, Duplouy, and a few others, have reported marked successes; but it is a method not destined to become very popular. It is intensely painful, and its use is followed by a more or less prolonged discharge.

Chromic acid is self-limiting in its action, as it is rendered inert by reduction to an oxide in the process of destruction of the tissues. It is very thorough, does not cause very much pain unless impure; and there must be cases where its employment would be valuable, care being taken to prevent toxic effects or a too deep penetration of the tissues.

Osmic, pyrogallic, salicylic and citric acids do not offer claims worthy of consideration, though the latter is said by Brandini and many others to give relief from the intense pain that often accompanies morbid growths.

Carbolic acid (though not belonging in this series) has been used with iodine in uterine cancer by Battey and others, who report good results. Its usefulness must, however, be very limited.

Chloride of zinc, the best of any of the metallic chlorides, and perhaps most useful of any of the potential caustics, has been employed in cancerous growths for about one hundred and fifty years. All pastes containing this agent are, practically, modifications of the formulæ of Canquoin. Velpeau, Maisonneuve, and a host of others, have highly praised its use; while in our own time we find Butlin writing strongly in its favor. Apparently it causes more pain than its rival arsenic, yet it is not only more thorough in its effects, but hæmostatic besides. It may be used in varying strengths with some inert substance or with some other caustic, like corrosive sublimate, arsenic, chloride of antimony, etc. Maisonneuve and Girouard used it rolled out into small sticks or arrows which were inserted through punctures in the sound skin into the tumor itself. It has also been used to a small extent for subcutaneous injection in dilute solution. It forms a dry, white seal that separates in about ten days spontaneously, or in less time if a poultice is used. The surrounding parts may be protected by some greasy substance, and if necessary, the slough can be scarified down to the underlying morbid tissues, and the zinc reapplied until the entire growth is cauterized.

Sulphate of zinc, in the form of anhydrous powder, is highly recommended by Stephen Smith. He first penetrates the skin with a mixture of sulphuric acid and the salt, and then, after leaving the zinc alone on the growth for three or four hours, any liquid residue is removed and a poultice applied, the slough separating in five or six days. Simpson, of Edinburgh, also used this agent with good results.

The following acid or neutral caustics may be dismissed with a brief mention. The use of any of them is restricted, and an extended discussion as to their merits or demerits would be out of place.

Sulphate of copper, dating its use as a caustic from the time of Galen, is mild and but rarely used now.

Corrosive sublimate is very poisonous and of limited value.

Chloride of iron acts very slowly and hardly like an escharotic.

Acid nitrate of mercury may be of service in ulcerated growths where a prolonged action is not required.

Nitrate of silver is of limited value, and permanganate of potash is even less escharotic in its action.

Chlorate of potash, used by Bergeron, Blondeau, and later by Burow, is applied in powder to open cancers, and although it can hardly be said to have an escharotic action, it causes a shrinkage of the tumor besides an absorption of infiltration and a diminution of secretion.

Arsenic (arsenious acid) stands with chloride of zinc and caustic potash at the head of useful escharotics. The names and varieties of pastes that contain this agent as a basis are almost without number, but the simplest are undoubtedly the best. The use of the drug in cancer dates from the earliest times, and by many modern surgeons it is preferable to any other caustic. Some even claim for it a special action upon cancerous tissue, whether administered internally or externally. When properly applied it is harmless, less painful than zinc chloride, and easily managed. Manec investigated about one hundred and fifty cases treated by Frère Côme's paste, and was led to ascribe to the drug an elective action; he found that elimination takes place in five to eight days, and hence advised that the applications be made nine days apart, but if any general, systemic effort is desired this would not seem necessary. Subcutaneous injection has been tried, but with poor results.

In 1874 the younger Marsden, who with his father was surgeon to the London Cancer Hospital, published a treatise founded on statistics of a period covering twenty-two years, and including about six thousand cases, and corroborated in great part by the resident physician, Dr. Crombie. He used a paste for the most part consisting of one-third mucilage of acacia and two-thirds arsenic; he does not deny that a return of the disease may take place, but the treatment can be

applied to so many cases that are out of reach of the knife that it is wrong in his eyes to entirely disregard a therapeutic agent of so great value.

His method, which is very simple, and has the merit of having been extensively tried, is briefly as follows: Spread the surface of the cancer, — not over one square inch, however, at a time, — with the paste; over this apply dry lint, any superabundant paste being removed after a space of ten minutes. In twenty-four hours there will be swelling and redness of the surrounding parts, and a drawing pain lasting one or two days. At the end of two or three days a poultice may be constantly applied, a distinct line of demarcation being seen with ulceration, and a fissure separating the slough from the healthy tissue. In six to thirty days, according to size, the slough comes away, leaving a healthy cavity. In some cases it is necessary to apply the paste every second or third day, until the desired effect is obtained, but no poultice should be applied until after the last application of paste, and no paste should be applied after the line of demarcation is formed. From this it is easily seen how partial or even bad results may be obtained from an unskilful use of the agent.

Helmkampff, in an extended article, advises that the strength of the arsenic be not over one-fifth or one-sixth that of the paste, lest too much inflammation be excited.

The extravagant claim made by some that return after destruction of a cancer by arsenic in particular is less liable to occur than after the use of other caustics or of the knife, is not borne out by careful observers.

Caustic potash is a well-known and efficient escharotic. With lime (equal parts) it forms Vienna paste; melted and run into leaden moulds it is called Filhos' caustic. Both forms are used considerably in France. Vienna paste is more manageable than the potassa alone, as it is less powerful and does not deliquesce nor run so much. It is rapid in its action, however, and aggressive, and for these reasons the milder arsenic is preferred by many.

Alveloz (aveloz), the acrid juice of one of the Euphorbiaciæ growing in northern Brazil, has been used by Janvrin in uterine cancer, and a number of good results reported. He prefers it to any other caustic in early cases, while even in those far advanced it is palliative and diminishes pain; others beside Janvrin have also derived benefit from its use.

A short glance at the history of escharotics and of the men that have marked separate eras, either by the benefit or harm that they have contributed, will help to show perhaps some of the merits that really belong to this much-abused subject.

In the writings of Hippocrates we find mention of the use of desiccants and caustics for the purpose of producing a superficial slough and of removing the morbid parts in indolent and malignant ulcers. One of his applications contained hellebore, flakes of copper, arsenic and cantharides, and it seems not improbable that some of the ulcers he speaks of were epithelial.

Galen distinctly advises such caustics as sulphide of copper, tersulphide of arsenic and quicklime, and in speaking of excision of mammery cancer he says that, if it is intended to cauterize the remaining roots of the cancer, care must be exercised when this occurs near important parts.

Following Galen, but after a long lapse of years, we find Guido "lavish of his encomiums on arsenic;" soon after come writers such as Fallopius, Ossenius, Penotus and Borellus, each with some particular preparation containing the same caustic. But it is not until the latter part of the sixteenth century that the use of arsenic as a cancer-caustic is at all systematized and placed on a firm footing. At this time Fuchs practised with great success in England, Germany and Poland; his powder, called by one writer *Pulvis Benedictus*, was made up of a white arsenic ground to a fine powder, brandy (*aqua vitæ*), a species of wormseed dried in an exposed place, and refined (*splendidi*) chimney-soot. All this was finely ground together and kept in a well-covered glass vessel a year before being used.

For nearly two hundred years little progress was made. It was a prosperous time for quacks and home remedies. Among the latter is the Earl of Arundel's recipe, said to have been given him in 1638 by one of a family of cancer-curers. Later, in 1714, we find the MS. recipe belonging to a family named Pains, with this marginal note: "Used by my Father & Grandfather & Brothers and known as a thing excellent by long Practice in our Family of Pains." Both of these recipes relied upon arsenic for their activity.

In the middle of the eighteenth century the famous Plunkett flourished. He laid great stress on the extraction of cancer-roots, and his recipe, which is also said to have descended from his ancestors, is interesting as given by Sir Spencer Wells: —

R Crowsfoot which grows on low ground, one handful.
Dog fennell, three sprigs. } well pounded.
Crude brimstone, three middling thimblefuls.
White arsenic, same quantity. All incorporated well in a mortar, then made up into small balls the size of nutmegs, and dried in the sun.

He sold the recipe to Guy, a contemporary, and it is also at this period and a little later that we hear of Martin, Pope, the younger Guy and Davidson — the latter enjoying a considerable reputation in our own State.

It remained for Frére Côme to crystallize the various and blundering methods of using arsenic in malignant growths. His paste originally containing red sulphide of mercury, charcoal and dragon's blood, beside white arsenic, was the base of all future arsenical pastes; it was simplified later and adopted into the French Codex. Very many cases were treated by Côme and other enthusiasts, such as Rousselot, Dubois, Dupuytren, Maisonneuve and Manec.

In 1834, Canquoin communicated to the Royal Academy at Paris the results in a number of cases treated by himself since 1824, with pastes of which chloride of zinc was the basis. Four years later appeared a complete exposé of his treatment, and although there is no question as to the virtue in his various pastes, the extravagant claims made by him must be taken with a good deal of latitude.

In 1847, Filhos recommended, especially in uterine cancer, the caustic that bears his name; that is, potassa and lime melted and run into moulds. This caustic, much prized in France for awhile, is a slight improvement over the time-honored Vienna paste.

Eight years later, Landolfi, Surgeon-in-chief to the Sicilian army, made strong claims for pastes containing the chlorides of bromine, zinc, gold and antimony, in various degrees of strength; he considered the gold as a specific in encephaloid cancer, and internally he gave

chloride of bromine, fennel and hemlock. Many cases were treated under the diagnosis and attendance of Rokitansky, Meckel and others, but a commission being appointed to investigate the method, decided that it was only a modification of that of Canquoin, besides being more painful and not so efficacious.

At this same time the notorious Dr. Fell, an American practising in England, appeared before the public. He claimed that his treatment, imparted to him by the Indians, was new and depended on Puccoon (blood root) for its activity; it soon came out, however, that he used chloride of zinc, but he made such glaringly false statements and used the caustic so injudiciously that he brought a storm of wrath upon himself from educated, conservative practitioners. The accounts that the latter give of patients that had been through Fell's hands are simply horrible in many cases; in fact they remind one strongly of that which takes place under quackery at the present day and in our own State.

One recalls the story of the Emperor Gallienus cured of a sciatica after undergoing a thousand painful experiments: "Take," he said to his physician, "take, Fabatus, two thousand sesterces, but withal, be informed I give them not for curing my sciatica, but that thou mayest never cure me again."

Meanwhile, in 1859, one of the most notorious of all quacks was holding sway in Paris. This was the so-called "Black Doctor," a negro by the name of Vriés. He soon gained a large clinic among the laity, and in order to give him a fair trial Velpeau placed sixteen cases under his entire charge, at Charité. At the end of three months, Velpeau, who had closely watched the cases, reported to the Academy, mainly as follows: No cases had been cured; the composition of the specific varied, it being aloes or iodine in England, but an inert vegetable powder of some kind in Paris; Vriés had no idea of cancer, nor of examining a patient; no promises had been fulfilled, and he had made false statements to the papers for publication. The patients were taken from his care, and later he was imprisoned, but it is needless to say that he had many devoted believers and followers.

A year after this another imposter was claiming attention in England: the Rev. Hugh Reed, whose treatment consisted in the use of some gas, probably chlorine, together with some internal medication that brought on salivation. At Reed's own request, Sir Spencer Wells investigated a number of his patients. In six he found no benefit from treatment, and in three others there was no cancer.

In 1870, another fraud, Buchanan, appeared on the scene. He claimed to use chlorate of carbon, which he sold for five dollars per pound, but which later proved to be chlorate of potash.

It is needless to name any of the quacks that have flourished since this date, while the names of the few men that have helped from higher motives, to keep this method of treatment at its proper level, can be found in any modern text-book of surgery.

Of the former class all practitioners know at least a few by name and deed. A more or less intimate knowledge of some of the most notorious in this city serves only to emphasize the one great fact that where so-called quacks do deserve credit in one case, there are many where they cannot be censured too severely. They are grossly ignorant of the nature of cancer, and, what is more surprising, of the action of the drugs that they use. They look upon the regular profession as bigoted and subservient to the traditions of European schools, and yet I have failed to hear one of them show the least intelligence on subjects in which they claim to be specialists. They do cure, so far as any one can cure, cancer, — that is willingly granted. When, however, one notorious swindler says that he has cured hundreds of cases, while another, his friend and supporter too, affirms emphatically and confidentially that the former has never cured a single case, but relies on defrauding and cheating a fellow quack for his own aggrandizement, it is difficult to make up one's mind that there is truth in any of their assertions. In fact, the healthiest sign, to be seen now, is the uncompromising condemnation that most quacks hold toward others of their kind. I have had too many proofs of this to leave any doubt in my mind of the fact.

An intelligent, skilful use of escharotics, on the other hand, is capable of doing a great deal of good in cases not suitable for excision; it will also serve to bring into good repute a method of treatment ignorantly employed by a class of men and women that has only selfish, brutal ends in view.

Let this be emphasized by a quotation from Butlin, who speaks from a considerable experience. He says: "I would urge that it (the caustic) be used far more frequently in surgical practice than it hitherto has been. I do not know whether it furnishes a better guarantee against recurrence, . . . but it affords quite as good a guarantee, and I fully believe that its use is attended with a very small risk to life. The prejudice against the use of caustics is in our profession very strong, partly because they have fallen for the most part into the hands of quacks, partly because we are not in the habit of employing them, and are in practice equally ignorant of their vices and their virtues." After speaking of the bone-setters, he concludes: "In the same way, many of our patients with cancer fall, through an apprehension of the knife, into the hands of cancer-quacks, and are treated successfully, at least as successfully as we could treat them, by means of caustics. As we have endeavored to meet and defeat the bone-setters, so must we meet and defeat the cancer-quack; not by ridiculing his methods and refusing to credit the account of his successes, but by making his methods our own, and by employing them with a far better knowledge of disease than he is ever likely to attain to."

To this might be added that if a specific germ should be proven as the cause of this worst of diseases, then we can look for some simple germicide that will serve to render all present treatment useless and antiquated.

What could be more earnestly desired by surgeons of the present day?

A CASE OF ACCIDENTAL DROWNING.[1]

BY FREDERICK WINSOR, M.D., WINCHESTER, MASS.

GENTLEMEN OF THE MASSACHUSETTS MEDICO-LEGAL SOCIETY: — An address from the retiring president would doubtless be received kindly and patiently by the members before me; but the present incumbent has nothing to offer which is worthy to be called an address, and he is unwilling to waste your time with perfunctory speech. There are, however, a

[1] Read before the Massachusetts Medico-Legal Society, June, 1888.

few points to which he will venture to call your attention.

Our attempt to obtain a change in the law regulating expert testimony, by which it would gain in dignity and in value and greatly advance the purposes of justice, has failed — failed for the present only. The reform we seek must come, for it is in the interest of good sense and truth. What is so plain to the medical profession must gradually become evident to the majority of the bar and the bench, who now fail to see that it would help them, as well as us and the whole community. Let us bide our time, and by and by press the reform again, leaving the initiative to those members of the bar whose eyes have been opened.

Our Society has reached a stage of development when it needs, not so much fresh rules and maxims, as the faithful use and practice of those with which it has supplied itself. "The Law of Medical Examiners" has been sufficiently elucidated and expounded. When to make a view, and when to refuse; when to ask permission to make an autopsy; how to conduct and record the autopsy, with the adjuncts, it may be, of chemical and microscopical expert investigation; to keep to *our* function, and leave to the court and the lawyer what belongs to them, — the *theory* of all these matters has been made plain to each of us, and admirable illustrations of its application to practice have been furnished in papers with which our publications are enriched. Familiarity with such applications is, perhaps, what is most needed by the individual examiner; but what the Society most needs is the readiness and habit on the part of every member to prepare for report and to present at our meetings such of his cases as are unusual and instructive.

It is obvious that such a habit would conduce greatly to accuracy and thoroughness in making views and autopsies; while it is almost essential to the well-being of this Society, which languishes to-day for want of just such nourishment.

Those of us whose cases are few — too few to make us as familiar as we feel that the medical-examiner should be with the application of the instructions we have received — are no doubt deterred from reporting cases by the suspicion that what is to us novel or puzzling, may be to our more experienced and accomplished associates an old or a trifling and tedious matter. But this risk must be encountered by every one who cares to learn; and it is in the hope of drawing some better instruction from others that I submit to this meeting the following report of a case: —

The following case was one in which the decision of the medical-examiner was questioned, and an inquest was held:

June 23, 1884, at 7.45 P.M., I was summoned to Woburn, to view the body of a woman which had been found, three and a half hours earlier, floating in shallow water on the shore of Horn Pond, near a place known as the "Swimming-Hole," distant about a quarter of a mile from any road or dwelling.

The officers who took the body from the water reported that they found it floating face down in water about two feet deep; the back, hips, and back of one leg were above water, the head and arms were more deeply submerged, the fore arms and hands resting on the bottom (which was of sand and pebbles). Close by, six or eight feet from the water's edge, her clothing lay in an orderly pile. The ground in the neighborhood was not trampled, and showed no signs of any struggle.

I found at the undertaker's room the body of a middle-aged, well-nourished woman, naked, cold and rigid. The face was not livid, and but little swollen. The eyelids were closed, the face placid. The teeth were clenched, and the tip of the tongue was between them, but not bleeding and not protruded between the lips. About the mouth and nostrils was a little blood, which came from cuts and scratches near by, — one on the right cheek, near the nose; several on the lower lip; all in the same general horizontal line, and all superficial. The tragus of the right ear was also slightly cut or scratched, and smeared a little with blood from the scratch. There was no froth at the mouth or nostrils. The right hand was clenched; the left partly so. There was cutis anserina on the front of the body. On the back of the trunk a few spots of hypostatic discoloration were seen. There was no other bruise, wound, or mark on the body.

Palpation showed that the womb was not enlarged; percussion, that the thorax was normally resonant.

From the husband I learned that he last saw the woman alive at 5.50 A.M., of the same day, when he left home for his work, she having cheerfully got him a good breakfast and seeming well. Returning at noon, he did not find her, and was told by his children (her step-children) that they had not seen her since they rose (about 7 A.M.). He and they supposed that she had gone — as she sometimes went — to visit her relatives half a mile away and nearer the pond. By the children I was told that she had several times said "she should like to have a bathe in Horn Pond." None of her immediate neighbors saw her leave home that morning.

She was well known in Woburn, and generally understood to be of inferior mind, and to have no delicacy of feeling and small sense of decency. I talked with her brother, as well as with her husband, and could not learn that she had ever been subject to "fits," or had spoken of suicide. I did learn, however, that she had "queer times," when she was very absent-minded, red in the face, and not well aware of what was going on, — although she attended fairly to her housework at such times.

The other relations were Protestants and of New England descent. Her husband was Irish Catholic, and had been forced into the marriage by her swearing him to be the father of her illegitimate child; and they did not live very harmoniously, though there were no stories of violence between them.

Her brothers gave me to understand that they suspected foul play on the part of the husband and his Catholic friends. They propounded vague theories as to her being abducted by night, and drowned, or dropped into the pond after being poisoned.

I saw no reason for asking an autopsy, nor did they call for it; and I reported the case to the District Judge as one of "accidental drowning."

The theory which seemed to me consistent with the observed facts, and with the woman's character and history, is that she was subject to epilepsy of the slighter form; that, under the influence of an approaching attack, she started to bathe in the pond; that by the time she had undressed and entered the water, she became dizzy and unconscious, fell face downward, and smothered with little struggle, perhaps with spasm of

the glottis. The very slight scratches on the face and ear might well have been abrasions made by the pebbles on the bottom.

The suspicions of her relations grew with dwelling on the strange death, and they employed two resident physicians to make an autopsy within forty-eight hours. I was not notified of the autopsy, but heard at the inquest their testimony, which was not from notes, but from memory. It was negative, — so far as regards the finding of any appearances to account for the death, — with the exception of an effusion or infiltration of bloody serum (rather insignificant in extent and vaguely described) into the substance of the upper half of the right pectoralis major muscle. There was no ecchymosis or other mark on the overlying integument; no injury of the clavicle or ribs. They found no evidence of poison. Their opinion was that death was not by drowning, because they found very little fluid in the stomach or in the plural cavities or air-passages; no froth, or but little, in the air-passages; and no special congestion or lividity of the head, neck, and upper chest. They believed that the woman was roughly used and killed before she was put into the water, and that some one probably knelt on her chest.

The finding of the Court was, "Death from cause unknown."

Nothing that transpired at the inquest has changed my opinion as to the cause of death in this case, but I submit it here to your criticism.

RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M.D.

MEASUREMENTS OF LONG BONES AND ESTIMATION OF THE HEIGHT.[1]

Dr. Étienne Rollet has written a paper on this subject which appears to have attracted a good deal of attention. It is based on measurements of the height of fifty male and fifty female bodies, and then of the length of the three long bones of the arms and legs of both sides. Such observations are very valuable, both from a scientific and a medico-legal standpoint. We shall have to criticize some of the deductions, but we would praise warmly the collecting of the statistics. In the first place the author compares the two sides with very interesting results, though we must remark that the series are far from large enough to be satisfactory, and that we should have liked to have had, not only the average difference between corresponding bones, but greater details as to the number of bones that varied considerably from the mean. The thigh bones are rarely equal, and either side may be the longer. The average difference, however, is slight; namely three millimetres, but in one case it reaches one centimetre. There seems to be little or no difference in this respect between the sexes. The tibiæ are often equal in the male; but they may be uneven, and the inequality is on an average two millimetres in favor of the right. It may reach five millimetres. Only four times was the left tibia a little the longer, and in these cases the left femur was the longer also. In women the inequality is more often in favor of the left, and sometimes in these cases the right femur was the longer. We omit the fibula as of little importance, as it is no true factor in the height of the individual. Twice among the men the lower limbs, as shown by the combined length of the femur and tibia, were equal. The average of the inequality was three or four millimetres, though it might reach one and a half centimetres. One side was about as likely as the other to be the longer. In the women the conditions were essentially the same. Sometimes the longer femur had the shorter tibia below it. Sometimes both bones of one side were longer than their respective fellows.

The results of observations on the superior extremity are more constant. The right humerus was almost always the longer. The two were equal only twice in each sex. The left was the longer only once among the men and twice among the women. The average excess of the right was five millimetres, and it some times reached even twelve and eighteen millimetres. The same general statement applies to the radius and ulna; the right is almost always the longer, and the average excess is three millimetres. Considering the arm and forearm as one, it appeared that the two sides were never equal in man, and only once in woman. Only once in man, and twice in women, was the left arm the longer. The average excess of the right was from seven to eight millimetres.

Statistics are wanting to show the age at which asymmetry begins. The author made a few measurements which showed that at birth the length of corresponding bones was equal, but he found a difference between the radii in a child of four months, and in another of twelve months. In a child of six, all the bones in question, except the fibulæ, were unequal. The observations, however, are far too few.

M. Rollet then gives the proportions of the different bones to the height, in both men and women, dividing the individuals into four groups according to height. If we assume that the number of subjects was divided as equally as possible (which is unlikely), each group would consist of only twelve or thirteen individuals, which is insufficient. We pass on to the third part of his work, that in which he gives five methods of estimating the height of an individual from the long bones or from one of them. The first method to which he gives the preference is by means of the tables which he has made, in which both males and females are divided into four groups according to height, and the average lengths of the long bones of each group are given. All that is necessary, knowing the length of a bone, is to find the group in which the length of the corresponding bone most nearly approaches it, to take the average height of that group, and, by a simple application of the rule of three, to find the height that was wanting. Thus the length of a given femur being L, the height of its late owner being X, the nearest average femur being A, and the height of that group being H, we have $X = \frac{H \times L}{A}$.

The second method is essentially similar. He gives tables of heights of individvals, two centimetres apart, fifteen of men and seventeen of women, with the length (we presume the average length, as found in the author's observations) of the bones opposite. Knowing then the length of a bone, you look for it in tables. If you find it precisely, you take the height in the same line. If it is not found precisely, you again have recourse to the rule of three. The third method appears to be to compare the length of the known bone with that of the mean femur, and know-

[1] Archives de l'Anthropologie Criminelle et des Science Pénales, to me iv, Mars, 1889.

ing the mean height, to go through the same process again. He gives a table of the mean length of the bones for both men and women. The fourth is still by the rule of three, and is done by tables showing the proportions of the different bones to the height, the latter being one hundred. The fifth method is a purely arbitrary one, which is, at all events, much less complicated than Bedoe's, which we described in the Report a year ago. It consists simply in multiplying the length of the known bone by the corresponding figures, as shown in the following table.

	Femur.	Tibia.	Fibula.	Humerus.	Radius.	Ulna.
Male,	3.66	4.53	4.58	5.06	6.86	6.41
Female,	3.71	4.61	4.66	5.22	7.16	6.66

This paper has attracted a certain amount of attention in France, but the part devoted to the estimation of the height is subject to a good deal of criticism. Rollet's first method is, we think with him, the best; but it should rest on tables composed from very many more measurements than his, and from which very old individuals should be excluded. But both in medico-legal practice and in ethnological investigations, the system is vitiated by the assumption that the murdered man, or the prehistoric race, had the honor of possessing the proportions of the Frenchman of to-day.

THE ARCHITECTURE OF THE FOOT.[2]

Prof. W. Rasumowsky has studied the internal structure of the bones of the foot in a somewhat original manner. His method strikes us as an excellent one. It consists in freezing the whole foot, and in cutting with a saw slices two or three millimetres in thickness. These are first cleaned by a stream of water and then put for several days into strong alcohol, after which they are made transparent by turpentine, or better still, oil of cloves. How they are mounted, if at all, is not stated: but they are examined by direct light, under oil of cloves. A lens may be used with advantage. The soft parts are rendered so transparent that one tissue is hardly to be distinguished from another, but the structure of the spongiosa is said to show many details not seen in sections not treated in this way. We own that we are sceptical that they are better than very thin sections properly cleaned, but what pleases us in the method is that it allows the foot to be studied as a whole.

One of the features which the illustrations at once make evident is that each bone cannot be considered as a whole in itself, but that some at least of its lamellæ belong to systems extending beyond its confines. Another is that in some cases the fibres of interosseous ligaments appear to be conecting links between systems of plates in separate bones. The illustrations, unfortunately, are from drawings, and do not therefore carry the conviction which follows photography, and which would be particularly welcome in this question of the possibility of direct continuity between fibrous tissue and bony plates.

It would be unprofitable to give the results of these studies in detail. There is the well-known system of struts and ties. Antero-posterior arches, with one pier in the heel-bone, diverge through the five metatarsal bones. The lines of these arches are, however, not continuous, but are interrupted at the summit, those of the three inner toes in the astragalus and those of the two outer in the os-calcis. Frontal sections show transverse arches in the front part of the tarsus. These are said to be connnected by a system of ties, partly of bony plates, partly of ligaments; and in this connection we must repeat that we wish the illustrations were less diagrammatic. A frontal section through the astragalus and os-calcis shows a series of plates in the main vertical, but with a tendency to incline inward in their course through the lower bone. The author points out a resemblance between a frontal section of the sustentaculum tali and one of the neck of the thigh bone.

[2] Internationale Monatschrift für Anatomie und Physiologie, bd. vi, heft. 6, 1889.

A POINT IN THE ANATOMY OF THE FIRST CUNEIFORM BONE.[3]

Messrs. Hartmann and Mordret have made a curious discovery concerning the first cuneiform bone of the foot, which is situated between the scaphoid and the metatarsal bone of the great toe, to wit, that it shows signs in many cases of a tendency to divide into two. They state that, in the majority of cases, there is a tendency to a contraction of the breadth at the middle of the anterior surface; and we must own that we are not clear that, so far, they have discovered anything that was not known before. Gray describes this surface as reniform, which implies a constriction on one side.

Their next step, however, brings us to something very new, and which one is surprised should have been overloooked. It is that in twenty per cent. of the cases the anterior surface is distinctly divided into two by a minute furrow, as if drawn by a needle, in the middle, and growing larger at its ends. They frequently found a delicate band of areolar tissue attached to it. When this exists there is a corresponding minute ridge on the back of the metatarsal bone, far too small to be of any surgical importance. In two per cent. of the cases the cuneiform was completely split into two bones, one above the other, presenting opposed articular surfaces except at the outer anterior angle, where there is an interosseous ligament. When the separation is complete, the anterior surface of the scaphoid shows four instead of three articular facets. These observations were made on three hundred feet. The authors find that the peculiarities were symmetrical. The division of this bone into two is already known as a rare anomaly. Le Dentu has thought that it had two centres of ossification, which unite at four years. Our authors appear to have examined few children's feet, and have never found two centres, though once the centre showed signs of a constriction near its middle. The scientific significance of the tendency to divide may be of considerable importance.

EXPERIMENTS IN CRANIO-CEREBRAL TOPOGRAPHY.[4]

Messrs. William Anderson and George Henry Makins read a paper before the Anatomical Society of Great Britain and Ireland, describing a very interesting study of the variations of the course and position of some of the chief fissures. Now that cerebral surgery has a recognized standing, the importance of an accurate placing of the main features of the motor region is self evident. The method pursued by these gentlemen is an ingenious one. Their observations were divided into three groups. The plan may be described in their own words:

"A preliminary series of examinations were con-

[3] Bull. de la Société Anatomique de Paris, 1889, fasc. iv.
[4] Journal of Anatomy and Physiology, vol. xxiii, April, 1889.

ducted with a view to gain certain approximate data as to the relations of the three principal fissures to the cranial walls. Upon the indications so obtained were founded a second and larger set of investigations, mainly guided by experimental punctures made at certain test points upon the scalp; and lastly, a number of adult crania of different types, but free from abnormalities of form or development, were submitted to measurement with a view to determine the range of variation of the principal sutures, eminences, and ridges in their relation to each other and to certain standard lines drawn upon the surface of the skull."

In the first series but one side of the vault of the skull was removed, the dura opened, and the course of the Fissures of Sylvius, of Rolando, and the external parieto-occipital, determined, and then marked with colored mucilage on the outside of the dura, which had been accurately replaced. The separated portion of the calvaria was then replaced, and the head turned so that the mucilage on the dura left its mark on the inside of the skull. The piece of bone was then removed, and holes drilled through it along the lines of the fissures. The relations of these lines to the sutures and eminences were then carefully noted. From these observations a brain-plan was drawn upon a skull of average dimensions. Provisional points were selected for certain points in the fissures; and three standard lines were drawn on the scalp, for their localization.

The second series consisted of experiments made from these lines which were drawn on the scalp. Holes were then drilled through certain points in them, and pins thrust through. It was then easy to expose the brain, and mark the relation of the punctures to the fissures.

The third series consisted of measurement of certain lines on thirty skulls, in order to ascertain the value of the sutures and eminences as guides to regions of the brain. We must omit the details of the bony measurements. Suffice it to say, that most of the points varied considerably. Three, however, are both relatively stable and easily recognized during life, namely, the glabella, the external angular process of the frontal bone, and the external occipital protuberance. It was found that the relations of the convolutions to the surface of the skull and to each other varied "within rather wide limits." The course of the fissures (apart from their relations) was found to be very uncertain. A series of tracings of the Fissures of Rolando shows some surprising meanderings.

We must now define the arbitrary lines which were chosen for standards. They are (1) the sagittal line, from the glabella, at the level of the highest point of the orbital arches, to the external occipital protuberance; (2) the frontal line (an unfortunate name), from the mid-point of the sagittal line to the depression immediately in front of the tragus of the ear; and (3) the squamosal line, from the most prominent point of the external angular process, at the level of the superior border of the orbit, to the junction of the middle and lower thirds of the frontal line, and prolonged an inch and a half beyond it. The upper end of the Fissure of Rolando was always found between the mid-sagittal point, that is the point in the middle of the line, and one three-quarters of an inch behind it. The distance from the mid-sagittal point bore, however, no constant relation to the length of that line. The lower end was found in the squamosal line, between the point where it cuts the frontal line and a point three-quarters of an inch before it. As already stated, the course of the fissure between these points was often remarkably irregular.

As to the Fissure of Sylvius, its point of starting is necessarily rather a vague spot. It is in the squamosal line, between one and one-eighth inches and an inch and a half behind the external angular process. The bifurcation is in the same line, between an inch and a half and two inches from the angular process. The main branch of the fissure follows the squamosal line closely; but it turns up at its end, which is near the parietal eminence. The authors state, however, that a circle an inch in diameter would fail to enclose all its variations.

The external parieto-occipital fissure is on an average seven-twelfths of the distance from the mid-sagittal point to the occipital protuberance, in other words, near the apex of the lambdoidal suture. Judging from the diagram, there is less variation in its situation than might have been expected.

THE ANATOMY OF THE PROSTATE.[5]

Mr. Joseph Griffiths, rightly thinking that our knowledge of the prostate is unsatisfactory, has studied it anew. He finds that the third lobe is not always present, but that when it occurs it is one of the original parts of the prostate, or at least one that appears early, and is not merely an extension of the other two. We referred some years ago in these reports to a paper by Mr. Harrison, of Liverpool, on the "Prostate Muscle," in which he maintained that the organ is essentially a muscular one. Mr. Griffiths, on the contrary, believes that it is essentially glandular. The following are his chief conclusions:

"(1) *The third or median* lobe exists, in many instances, as a well-defined portion of the gland at puberty and adult life, that is, the period before enlargement of the prostate occurs; but in other instances, it is very small or entirely absent.

"(2) This part, or lobe, possesses ducts of its own, which open upon the parts of the hinder wall of the prostatic urethra, which extends from the vesical orifice to the *verumontanum*.

"(3) This part, or lobe, also develops separately from the part of the urethra just mentioned, in the same way as the lateral lobes do from the part of the urethra on each side of the *verumontanum*, and it is not the result of an extension backwards of gland tissue from the lateral lobes into the interval between the vasa deferentia and the neck of the bladder.

"(4) The whole gland is peculiar in this particular, that the 'ducts' are short, and form mere channels in the stroma, being destitute of any special coats, except a layer of epithelium lining them; and that the muscle tissue of the prostate is so arranged around the termination of the 'gland tubules' which form the secreting parts, that the muscle, when it contracts, is able to act as an efficient expulsor along the whole course of the tubules.

"(5) This arrangement of the muscle in the prostate is developed in relation to the function of the gland; and thus it is that the secretion accumulated in the tubules can be completely expelled into the urethra at once, or at least in a short time.

"(6) The muscle-element of the prostate is derived

[5] Journal of Anatomy and Physiology, vol. XXIII, April, 1889.

from the outer, circular, non-striped muscle-coat of the prostatic urethra, this coat being continuous with the circular-coat of the bladder; therefore the muscle-element of the prostate is only indirectly continuous with that of the circular-coat of the bladder.

"(7) The *utriculus masculinus* is not, properly speaking, embedded in the prostate. It forms a distinct structure separate from the prostate; and as the growth of the prostate greatly exceeds that of the *utriculus masculinus*, the latter is in time covered in, and appears as if imbedded in the former."

Clinical Department.

A CASE IN WHICH THE NIGHT-CRIES OF HIP DISEASE WERE STOPPED BY FLEXING THE LEG.

BY JOEL E. GOLDTHWAIT,
Formerly Interne at the Boston Children's Hospital.

B. D., a healthy looking child, six years old, was admitted to the Children's Hospital, May 25th, and entered the service of Dr. E. H. Bradford, through whose kindness I am permitted to report the case.

She has had hip disease for the past nine months, and has been under treatment for the last six, during which time she has worn a hip splint, a high sole on the well foot, and has walked with crutches.

The first three months of treatment she did very well, but after that she began to cry out in her sleep, at first only once or twice, and then as many as fifteen or twenty times during the night. There were no other acute symptoms; no signs of an abscess; no pain; no apparent deformity, either flexion, abduction or adduction; and the motion in the joint was by no means entirely restricted.

Because of the severe "night-cries" she entered the hospital. For the first two days she was kept in bed on a "Bradford frame," with the leg fixed by means of sand bags and a weight of four pounds for extension. Each night she cried out sharply many times. She was then given ten grains of the salicylate of soda, four times a day, as suggested by Dr. Lovett.[1]

In the majority of cases this treatment has stopped the cries in a day or two, but in this case the soda salt was continued for about two weeks without any diminution in the night-crying. (During this time the extension weight had been doubled, without giving relief.)

On June 11th, by way of experiment, the salicylate of soda was omitted, and the leg was flexed at an angle of about thirty degrees with the bed, and the weight raised to pull in the same direction. That night she cried out once, and upon the six following nights she slept soundly all night.

On the night of the 18th of June the leg was put down flat upon the bed, and she cried out once. This was repeated the following night with the same results. Again the leg was raised, and up to the time of discharge, with the leg held in this position, there were no more night-cries.

During the greater part of her stay at the hospital she was up and about the ward during the day, and the leg was flexed only at night. She is to carry out this same treatment at home.

[1] Boston Medical and Surgical Journal, vol. cxx, p. 361.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE. SECTION ON ORTHOPEDIC SURGERY.

STATED MEETING, March 15, 1889. A. B. JUDSON, M.D., Chairman.

CICATRICIAL CONTRACTION OF FINGERS.

Dr. A. M. PHELPS presented a patient on whom he had operated four weeks ago for restoration of motion to the fingers, which had been flexed in the palm by a cicatrix in the wrist of eight years' standing. He had freed each tendon from the cicatricial tissue, and had secured healing by blood-clot, with the hope that new sheaths would be formed in the clot. The wound was dressed antiseptically, and the first dressing was changed at the end of three weeks. The prospect of recovery of motion was good.

DR. R. H. SAYRE said that Paget had long ago recognized the organization of blood-clot after subcutaneous tenotomy. The case presented by Dr. Phelps shows that advantage can be taken of it after open incision under antisepsis.

HYSTERICAL EQUINO-VARUS.

Dr. N. M. SHAFFER presented a patient, a girl of twelve years, who had been affected for ten weeks with hysterical equino-varus and rhythmical movement of the left foot. The talipes was reducible manually, but the motions were persistent. There was inability to walk, the result of the disability of the quadriceps extensor group. Before coming under Dr. Shaffer's observation, plaster of Paris had been applied to the limb for several weeks, but without benefit.

DR. A. B. JUDSON thought that choreic elements were seen when the patient attempted to walk. He recalled a case of rhythmical myoclonus reported by Dr. Peckham in the Archives of Medicine in 1883, in which the patient had been subjected to a great variety of treatment, and recovered finally after the hypodermic use of atropine.

DR. S. KETCH suggested treatment by hypnotism.

DR. R. H. SAYRE thought that the case illustrated the fact that abnormal muscular contraction can produce degrees of deformity as marked as those caused by bony distortion.

DR. L. W. HUBBARD thought the case allied to chorea, being the result of nerve irritation or exhaustion. He suggested absolute rest or recumbency for a long period, with efforts to improve the nutrition.

DR. A. S. HUNTER had treated with success a case of hysterical hip by the administration of ignatia amara. The use of this drug in a number of cases of this kind has led him to value it highly when the disturbance was limited to groups of muscles only; but he thought it was of little value in the treatment of general choreic conditions.

DR. V. P. GIBNEY had had a favorable effect in a case of rotary spasm of the neck, from the fluid extract of gelsemium, given in five minim doses, and pushed almost to toxic effects.

DR. H. W. BERG said that the contractions in the case shown could not be due to nerve lesion because it yielded too readily to manual replacement. Where there is irritation of motor nerves, as in spastic paralysis, it is extremely difficult to reduce the limb to a proper position. He suggested the ordinary treatment of

chorea with electricity, to make an impression on the mind rather than on the nerves.

THE MANAGEMENT OF HIP-JOINT DISEASE.

The paper of the evening was read by Dr. Phelps, entitled

THE MANAGEMENT OF HIP-JOINT DISEASE FROM AN ANATOMICAL BASIS.

In regard to the pathology of this disease, Dr. Phelps believes that it is a local tuberculous affection due to accidental inoculation and not to a constitutional or strumous condition. Following Volkmann, Albert, and König, he believes that the inflammation at first simple, becomes tubercular by inoculation, and then purulent. The irritation of the peripheral extremities of the nerves in or about the joint produces muscular spasm, which in turn distorts the joint by trauma aided by the bacilli of tuberculosis.

In regard to treatment, he relies on mechanical treatment, believing that if we immobilize a joint and remove the intra articular pressure, nature will take care of the tuberculous material. His experiments on dogs had convinced him that immobilization of healthy joints does not produce anchylosis. Encouraging motion in an inflamed joint is a violation of the surgical law that an inflamed part requires rest.

He believes that the muscular spasm, which is a most serious element of destruction, should be overcome by extension, and that while extension is necessary to secure immobilization, it is not sufficient by itself. He therefore resorts to a combination of extension and fixation; the extension to be in a line corresponding to the axis of the neck of the femur.

Treatment as a rule should be begun in bed, extension being made in two directions, that is, toward the footboard and laterally, the body and well leg being fixed to a long splint extending to the axilla. If the deformity does not yield to extension properly applied, the tissues at fault should be divided subcutaneously or by open incision. Abscesses are to be incised through their entire length, and thoroughly scooped out and washed, strict antiseptic precautions being observed.

Distension of the capsule should be relieved by aspiration or incision; then traction will not produce pain.

He exhibited a patient in a portable bed, which is an ingenious substitute for the wire cuirass, made with a board cut in an outline of the body, and plaster of Paris. The child is laid on the board and then the whole enveloped with plaster of Paris bandages from the foot to the axilla. The plaster is then cut away in front, the interior comfortably padded, and the patient held in place by lacings or bandages. Extension and fixation in bed are to be continued until the active symptoms and the deformity have entirely disappeared and the spasm of the muscles is no longer present. Adults are then given crutches and a portable splint which has a perineal crutch, extension by adhesive plaster, an abduction bar, and an upper (thoracic) ring to prevent flexion and extension at the hip. Children, after treatment in bed, are to have the portable bed, and then the portable splint, with or without the high shoe and crutches.

Dr. J. Ridlon was pleased to hear the author of the paper take the ground that hip cases should be cured without deformity. He recalled a case of a patient in which the muscular spasms had been relieved by pinching the muscle. The child was very thin, and it was found that when the adductors were separated from the other muscles, and the belly of the muscle was pinched without any attempt at fixation, there was as much relief as could have been afforded by lateral traction.

Dr. Shaffer said that the paper had suggested to him the importance of separating, in our minds, the disease from the deformity. It is a question how far we are justified in meddling with the deformity, which is simply an expression, or so to speak, a symptom of the disease. In his experience, attempts at speedy reduction of the deformity had been followed by disastrous results. Nature gives a very positive indication in the acquired position of the thigh, that in which the immobilization of Nature reaches its maximum, and the diseased parts receive the greatest relief from reflex muscular spasms. If we forcibly interfere with this effort on the part of Nature, we inflict a distinct traumatism.

On the threshold of treatment, the important question is, not whether traction is to be made in the line of the shaft or the neck, but how to secure an artificial immobilization in the position nature assumes as the one that affords the most protection to the inflamed parts. He believed that if the joint was protected from traumatism, in other words, if traumatic contact of the inflamed joint surfaces is removed,— and this can readily be done by the use of portative apparatus without entailing immobilization of the entire body from the head down,— the joint is placed in the best-known local condition.

The portative traction treatment is compatible with fresh air, sunlight, and moderate exercise, which are the best means of combating the tubercular disease, and the tubercular diathesis. More lives have been saved, and better results have been thus secured, than by any other method which has been thoroughly tested.

Dr. R. H. Sayre agreed with Dr. Shaffer as to the importance of maintaining the general health, and the inadvisability of general immobilization of the body, if the diseased joint could be controlled without it. He thought that complete immobilization of the hip-joint in young children was very difficult to secure; and that the movement that stopped short of producing muscular spasm and pain, was not harmful. For poor children particularly, he thought the portable bed was an admirable contrivance.

The relief obtained in some cases by pinching the muscle could be explained on the supposition that it stopped the reflex action of the muscle. It is known that firm constriction of the belly of a muscle will, in certain cases, abolish spasm.

Dr. Charles L. Scudder, of Boston, advocated a more frequent resort to the results of experiment on the cadaver. He recalled Dr. Bradford's experiments made in 1880, in which it was found that in an adult a force of one hundred pounds was not sufficent to separate the head of the femur from the socket; while in the shallow and not yet completely ossified acetabulum of a young child, a moderate force caused separation, and still less force was required in the fœtus. Dr. Scudder believed that in hip-disease of children, a tractive force of from three to five pounds would separate the joint surfaces, as was illustrated at the Children's Hospital, in Boston, in the case of a young boy who had hip disease and

night cries. The joint cavity was opened and a small quantity of pus evacuated. While the boy was under ether, it was found that traction made with the hand separated the joint surfaces to such an extent that the finger could be placed between the head and the acetabulum.

DR. HUBBARD thought that no one at the present time held the opinion that anchylosis is caused by immobilizing the joint affected with chronic inflammation. He had found it difficult to get anchylosis in cases where it was desirable, as in disease of the knee. The first object is to give rest to the joint, which is best done by traction; not to separate the surfaces, but to overcome articular pressure which leads to muscular spasm. He believed the long hip splint gave sufficient immobilization for all practical purposes. It is more easily managed than the portable bed of Dr. Phelps, which from neglect would be likely to cause excoriations. As the disease seems to be a struggle between the tubercle bacilli and the vitality of the organism, he thought it especially important to place the system in the best possible condition to resist the attack. He had rarely seen constitutional disturbance from abscesses which had been let alone, although in exceptional cases acute and painful conditions are certainly greatly relieved by surgical interference.

DR. JUDSON commended the title of the paper. It was an admission that hip disease is not to be cured by treatment, but so managed that the almost inevitable recovery by natural processes should be with the minimum of disability and deformity. He thought that more emphasis should be placed on the importance of protecting the joint from the traumatisms of standing and walking, as is done by the use of Hutchison's extra long crutches and high sole on the well foot. But in every case there are long periods of exemption from pain, when this simple apparatus will be discarded. The ischiatic or perineal crutch of the hip splint, however, cannot be willfully discarded; and when it is seen that the rack and pinion not only furnish traction but also a convenient means of adjusting the length of the upright, the hip splint appears to come very near perfection as an instrument for the management of hip disease. He had never recognized either the trauma said to be caused by reflex muscular contraction or the alleged mechanical counter-action of the muscles by traction. He believed, and had always held, that the hip splint mitigates reflex muscular contraction by allaying the inflammation which gives rise to it. This it does by arrest of motion and prevention of pressure; motion being arrested by traction brought about by the use of the key, and pressure being averted by the perineal or ischiatic crutch, which makes the limb a pendent member. As the inflammation is resolved the reflex muscular contraction ceases.

The last annual report of one of our orthopedic institutions contains a table, from which it appears that there have been under treatment 371 cases of disease in the hip; 6 in the shoulder; 85 in the knee; 3 in the elbow; 27 in the ankle; and 5 in the wrist; an aggregate of 483 in the lower, and 14 in the upper extremity. Shall we draw the inference that the incipient osteitic focus is found only or chiefly in the cancellous tissue of the lower extremity, or that a focus in the upper extremity more readily undergoes resolution by reason of its comparative exemption from violence? If the latter view is correct, it follows that the limb is to be made a pendent member by the persistent use of the axillary or ischiatic crutch at the earliest recognition of the disease. In some cases, an early diagnosis may be facilitated by the following simple method:

Let the patient sit on a table with the legs hanging and the knees separated: in this position, swinging the leg laterally is possible only with rotation of the femur; and if one leg oscillates in a less arc than the other, it induces or confirms a suspicion of the integrity of the joint.

He did not believe in treating abscesses and sinuses except indirectly through general and local management of the bone disease in which they originate.

Dr. Gibney was in favor of securing absolute immobilization, but sometimes he would rather have less perfect immobilization, if by so doing he could secure a change of air and climate, with the consequent improvement in the general nutrition.

Ordinary hip disease is managed satisfactorily by the portable traction splint, with or without the rack and pinion; and he had been agreeably surprised with the facility with which these patients ran around in the tenement houses. They come to his clinic only every three or four weeks for adjustment of the apparatus; and during these intervals engage in the most active sports: they certainly do not lie in bed in dark rooms and die of pyæmia. It is unsafe to put these children in an appliance like a cuirass or the portable bed, unless one is certain of being able to attend to them at short intervals. It had been his lot to see cases in which he had been unable at times to obtain proper co-operation on the part of the patient's family. He had often seen abscesses burrowing up to the spinal column and down to the knee; and such cases seemed to baffle even attempts at surgical interference. We must be guided a good deal by circumstances, and if we can protect the hips from trauma and give the patient the benefit of out-door exercise, abscesses will generally be insignificant.

He believed in correcting the deformity speedily, if necessary, by dividing tendons and bone under an anæsthetic; for, by so doing, we save much time and lose nothing.

In regard to aspirating the joint over-distended with fluid, it was almost impossible to diagnosticate an over-distended hip-joint. The position of the limb does not depend on the quantity of fluid in the joint, but is due to reflex spasm, and the efforts made by the child and nature to secure fixation.

DR. J. H. GIRDNER described an experiment on the cadaver in which great force was applied without separating the surfaces of the hip-joint. He also cited a case in which it had been necessary to keep the hand applied to the face for nine weeks in the course of a plastic operation on the nose. At the end of this time there was no limitation in the motions of the elbow and wrist.

DR. KETCH believed that hip disease is so often characterized by exacerbations that all attempts at a division into stages are of no practical value. He thought that the hip splint could be often of use for the reduction of deformities, even in those periods when the patient is confined to his bed. In general, he believed it was a great mistake to make use of any apparatus which can be entirely left to the care of the patient or family for long periods.

The explanation of the relief of pain by compression of muscles was to be found in an involuntary action on the part of the patient, which secures fixation and traction at the same time.

DR. BERG, speaking from the standpoint of the general practitioner, who frequently saw children in the very beginning of hip disease, related the histories of three cases which had presented the symptoms of early hip-joint disease and yet recovered perfectly after a rest in bed for a few weeks. He now insisted on all patients remaining in bed for several weeks before commencing any other treatment.

DR. PHELPS, in closing the discussion, said that many cases in tenement houses, whether treated by the long traction splint or by the portable bed, are deplorably neglected; but this does not argue against the use of either apparatus: it simply illustrated one of the difficulties with which all practitioners have to contend. He valued the portable bed because he desired immobilization of the affected joint, and this could not be obtained with splints having joints in them, and not including the trunk. He could relieve his patients better in bed during the period of deformity, and so adopted this method of treatment. He had seen patients in England who had been in bed for several years, and were still in excellent health. He did not, however, advocate prolonged bed treatment. Believing that the cases in question are inoculations of the bacillus tuberculosis on a previously inflamed surface, and not instances of constitutional tuberculosis, he explained the frequency of tubercular joint diseases in the lower extremity, by the statement that the joints of the lower extremities being more subjected to traumatic inflammation, furnish good ground in which the bacillus of tuberculosis could more readily reproduce itself.

He had presented his honest convictions, and hoped to report his cases later in such a way that others could disprove his statements, or he could substantiate his views.

ANNUAL MEETING OF THE ESSEX NORTH DISTRICT MEDICAL SOCIETY.

E. P. HURD, M.D., CORRESPONDING SECRETARY.

THE Essex North District Medical Society met at the Franklin House, Lawrence, Wednesday, May 4, 1889, DR. C. G. CARLTON, President, in the chair.

DR. W. J. SULLIVAN, of Lawrence, read a paper on the

DISEASES OF THE HEART,

in which, in the brief space of half an hour, he took a wide and comprehensive survey of this vast subject.

DR. KATE C. HURD, of Newburyport, read a paper entitled

INTERESTING CASES OBSERVED IN THE NEW ENGLAND HOSPITAL FOR WOMEN AND CHILDREN DURING THE YEARS 1888 AND 1889.

Twenty-six years ago this hospital was founded by Dr. Marie E. Zakrzewska, who was then professor of Obstetrics in the Female Medical College of New York. During the first year there were forty-one obstetric cases in this hospital. While Dr. Ann Preston labored untiringly for the establishment of the Woman's Medical College of Pennsylvania, Drs. Zakrzewska and Elizabeth and Emily Blackwell felt the imperative need of a hospital for women and children, where women who were pursuing the study of medicine could have clinical advantages for widening their medical education, and where at the same time female patients might be treated by their own sex.

The present hospital building was finished and in use in 1872. Its situation is in Roxbury, on a hill surrounded by fields and uncultivated lands, facing the northeast, so that every room in the house has direct sunlight during some portion of the day. The wards have each from one to four beds. The hospital charges varying somewhat with the number of beds. One-half the wards are devoted to surgical cases, and the other half to medical patients. The maternity cases are cared for in an entirely separate building, especially arranged to allow thorough cleanliness and antisepsis. This cottage, however, is proving too small, and plans are already made for a new house large enough to accommodate the women who desire to enter before confinement. Over 150 internes have already broadened their medical education by a year of practical work in this institution.

There is a training-school of twenty nurses, whose course covers eighteen months in the various departments, and to have obtained the diploma means that they have proved very faithful and efficient in the care of the sick confided to their charge.

The Maternity Department proves of great value to patients, internes and nurses. During the past eleven months 112 women have been confined there. Of these, fourteen were cases absolutely requiring the use of forceps. In two of them high forceps were used, the os uteri having been previously dilated artificially. Five were premature births; three were breech presentations; two were cases of transverse presentation requiring version; and three patients had puerperal convulsions, one before, the others after the birth of the child. There was one case of puerperal mania: the patient died insane at the McLean asylum.

To the female interne belongs the entire work of delivery and the directions to the nurses as to the preparation and after care. She is required to be very accurate in the diagnosis of position and presentation; and if during delivery there be a tear of the perineum, this is immediately repaired with stitches. Three of the primiparæ for whom the use of high forceps were needed, were torn through the whole perineum and sphincter ani. These ruptures were so promptly and thoroughly attended to, with complete antiseptic precautions, that the result was perfect union with entire control of the sphincter.

All the latest details of antiseptic midwifery are strictly carried out, and not a case of puerperal fever has occurred in this hospital for over five years. There has been but one case of mammary abscess.

After confinement the patient is lifted carefully and taken to another ward, which she is to occupy. After each room is vacated it is fumigated, and washed with a disinfectant solution, and the utmost pains are taken to prevent septic infection. The patient is given liquid diet the first day, light diet the second, and on the third day, full diet. She is required to nurse her baby regularly every two hours during the day and three times at night. During the intervening time, the infant is kept in another room, so that the mother may not be worried by its cries. On the tenth day, the patient sits up in bed half an hour, if all is well. On the fourteenth day she gets out of bed, if there be no contra-indications, and sits in a chair for

half an hour, and is allowed to sit up still longer on the following days, till the twenty-first, when, if in good condition, she is discharged. The dressings are pads of cotton antiseptically prepared, covered with bichloride gauze. These are renewed as often as soiled. If the lochia are at all offensive, a vaginal douche is given several times a day of corrosive sublimate, 1: 5000. All patients have douches from the tenth to the twenty-first day. After the fourteenth day a vaginal examination is made. Any laceration of the cervix uteri is at once treated by the modern methods. It is remarkable how rapidly a gaping tear of the cervix will heal under the occasional application of a strong solution of silver nitrite or pure carbolic acid.

Incipient mammary abscesses which do not yield to bandaging, ice bags and belladonna, are treated with hot applications of ammonium chloride in water.

The essayist gave an account of several of the most interesting cases occurring at the Maternity the past year, and then spoke of the surgical work of the hospital, one hundred and one operations having been performed during the past year. There have been eighteen laparotomy cases during the past eleven months, with three deaths. Six were hysterectomies for the removal of large uterine fibro-myomata. Six large ovarian cysts were emptied and excised, all with complete recovery. Other laparotomies were for the cure of hæmatocele, pyosalpinx, perinephritic abscess, etc.

One immense papillomatous cyst was removed. It was adherent to the uterus, rectum, bladder and posterior abdominal wall, In its removal most of the body of the uterus was taken out with it. The patient recovered, and is now doing housework.

The following interesting case from the essayist's notes is worth quoting in full.

When called to see this patient (Mrs. D., aged twenty-four, a Dispensary patient), December 1, 1888, I found her in bed, suffering intensely from what seemed to be an attack of localized peritonitis in the left inguinal region. She had been flowing for more than a week. Strength, appetite, sleep were absent. I ordered hot vaginal douches, gave her morphine suppositories for the pain, and ordered poultices over the seat of pain. Ergot considerably lessened the hæmorrhage. Pain subsided; appetite returned; and for a few days she gained rapidly.

December 7th, five days after my first visit, I found her again in great pain, with some bulging on the left side just above Poupart's ligament, and intense pain on pressure there. She had no fever; her pulse was good. The uterine hæmorrhage returned; and again the hot douches, the opium, the salines, brought relief. On the fifteenth day she decided that she felt so well that she would stay in bed no longer. She went down a long flight of stairs to her kitchen. Almost immediately the pain returned and was so severe that she was obliged to be carried to her bed-room. This pain continued with great intensity all night. The flowing began again, was very abundant; and the next morning I noticed that the tumor in the left inguinal region was much larger than before. It was easily defined; irregular, and as large as a goose's egg, felt both by internal and external manipulation, and seeming like a dilated tube. The question arose, is this a tubal pregnancy or a hæmato-salpinx?

During the entire illness with the discharge from the uterus there had occasionally passed shreds of membrane, sometimes as large as a silver quarter.

From her history I found that she had menstruated irregularly during her entire gestation, seven years previously, and that a short time before her present sickness she had had amenorrhœa, lasting six weeks, with morning nausea, a slight cough, etc., owing, she thought, to a severe cold; and she took hot drinks, hot foot-baths, etc., until the hæmorrhage commenced, which continued during the three weeks in which she was under my care, with greater or less severity and violent pain in the left side.

After this, the pain and flowing nearly ceased, though the tumor gradually increased; and again, without permission, she went down stairs, and while there had three sinking spells, each lasting fifteen minutes. I felt that it was fully time for the physician of the month, Dr. Emma Call, to see the case with me; this was brought about on the following day, and the case being diagnosticated tubal pregnancy, sent her out to the hospital. For the first week after admission the pains continued with frequent exacerbations and rapid increase in the size of the tumor. December 28th, the pain was with difficulty controlled by opiates, and the tumor doubled in size. A consultation of the surgical staff was held, and it was decided to make an exploratory laparotomy, and, if possible, to remove the growth. After the usual careful preparations, as to perfect antisepsis, bowels, diet, and other details, the operation was begun. The abdominal cavity was opened by an incision four inches long, below the umbilicus. Immediately beneath the peritoneum could be seen the tense bluish membrane forming the cyst-wall, on the left side, extending nearly to the umbilicus. The peritoneum was so adherent to this that it was with difficulty separated from it. The sac was punctured, and drained of a thick dark-colored and bloody fluid. It was found to be a much dilated tube with exceedingly thin walls. This was seized with cyst forceps and drawn out of the cavity, the broad ligament ligated; and the cyst, tube, and ovary of the left side were removed. The abdominal cavity was washed with boiled water, a glass drainage-tube inserted, the edges of the wound approximated, and dressed with iodol. The patient made a rapid and uneventful recovery.

The tumor was found to be a large hæmato-salpinx, with a small nucleus, which was probably nothing but a blood clot. The left ovary was not diseased.

Among the list of surgical cases were numerous ulcers of the leg, acute or chronic varicose or syphilitic. In the dispensary practice we had very good success with the use of hot water, soaking at night, and the close application of a piece of bright tin accurately fitting the ulcerating surface.

The essayist detailed several interesting cases occurring in her dispensary practice, spoke of the great benefits which she had derived from acetanilide in ovarian and congestive dysmenorrhœa, and even in labor. When given during parturition, "acetanilide regulates the pains and shortens the intervals, while apparently quieting the patient." The remarkable benefits of the same remedy in pertussis were mentioned. It seems both to mitigate the paroxysms and shorten the duration of the disease. Sulphurous acid fumigations were also tried in several cases of whooping-cough, and the results were quite gratifying. Some bad cases have done better on chloral hydrate, one grain every hour in syrup tolu, than on any other remedy.

The essayist alluded to the marked relief which she

had seen to follow the local application of hydrochlorite of cocaine (4 : 100) to the cervix uteri for the vomiting of pregnancy, and to the benefits of full doses of acetanilide (15 to 20 grains) along with sodium salicylate in acute rheumatism.

MASSACHUSETTS MEDICO-LEGAL SOCIETY.

W. H. TAYLOR, M.D., SECRETARY.

THE Twelfth Annual Meeting was held June 11, 1889, and was called to order at 11.15 A.M., by President PINKHAM. Twenty members were present. Records of the last meeting were read and approved.

Voted, on motion of MED. EXR. TOWER, that the assessment for the current year be three dollars.

DR. BENJAMIN E. COTTING, of Roxbury, was unaminously elected an associate member.

Voted, on motion of MED. EXR. DRAPER, that two members of this Society, one being the President, and the other to be appointed by him, be sent as delegates to the Section of Medical Jurisprudence of the American Medical Association, to be convened at Newport, on June twenty-fifth, next.

The President appointed Med. Exrs. Draper, Presbrey, Hartwell, Standing Committee for the ensuing year.

MED. EXR. DRAPER declined re-election, on the ground of his long service and many duties in other lines. It was voted to excuse Dr. Draper from service on this committee, and Dr. A. F. Holt was appointed a member.

A nominating committee, appointed by the President, and consisting of Med. Exrs. Munsell, Hartwell and Mead, reported the following list of nominations for officers, which was unaminously adopted:

President, Dr. J. G. Pinkham, of Lynn; *Vice President*, Dr. A. F. Holt, of Cambridge; *Corresponding Secretary*, Dr. B. H. Hartwell, of Ayer; *Treasurer*, Dr. C. C. Tower, of South Weymouth; *Recording Secretary*, Dr. W. H. Taylor, of New Bedford.

The President announced the death of Dr. Frederick Winsor, of Winchester, Medical Examiner, and former President of this Society.

DR. BENJAMIN E. COTTING read a paper entitled:

A MURDERER'S DYING CONFESSION DISPROVED BY SURGICAL AND ANATOMICAL FACTS.[1]

A girl was wounded in the head by some person who evidently intended murder. The squamous portion of the temporal bone was broken through, and the brain wounded to a depth of two inches. A large number of half-round clean cuts were seen on the scalp in the neighborhood of the fracture. The self-accused assailant stated that the wounds were inflicted by a hammer. Dr. Cotting held that this could not be the case, and that the only probable instrument was a carpenter's or a turner's gouge. The paper was a valuable and ingenious one, and was of great interest.

Discussion followed by DRS. ADAMS, WHITNEY, COTTING and others: some holding that the wounds might have been inflicted by a hammer.

DR. T. D. CROTHERS, of Hartford, Conn., read a paper on

SOME PROBLEMS OF THE MEDICO-LEGAL RELATIONS OF INEBRIETY, ILLUSTRATED BY THE CASE OF J. H. SWIFT, EXECUTED IN APRIL, 1889, FOR HOMICIDE.

Dr. Crothers held that inebriety is a brain disease, and should be ranked with insanity, as far as responsibility is concerned, in capital causes. Inebriates should be treated separately, as diseased persons. Dr. Crother's views on this subject are too well known to need further comment.

MED. EXR. F. A. HARRIS read a paper on

THE EVIDENCE IN CASES OF ARSENICAL POISONING.[2]

In a concise, clear and thorough way he gave the points necessary to prove the fact of arsenical poisoning, from the standpoint of the medical witness.

The Treasurer made his report, which was accepted.

Recent Literature.

Annual Report of the Board of Health and of the City Physician of the City of Lowell for the year 1888.

This report is creditable to those from whom it emanates, and shows that the City of Lowell is fortunate in the possession of very intelligent and efficient sanitary officials. The various subjects presented are treated with clearness and decision, but without that dogmatism which repels the wavering, the sceptical and the recalcitrant in sanitary matters.

Lowell is a great manufacturing centre and, as a consequence, a large percentage of its population consists of mill operatives, many of these living in tenement-houses or tenement-blocks, and many of them French Canadians. Moreover, in some quarters the arrangements for water supplies and sewage are in a transition stage from those of a town to those of a city; that is to say, the water pipe and the well, the vault, and the sewer are coexistent. Given these facts, it is easy to anticipate the main problems with which the health officials of Lowell are called upon to deal. Among these are the inspection of tenements and schools, the control of contagious and diarrhœal diseases, the disposal of filth, the co-operative inspection of food and water.

Since October of 1888, diphtheria and scarlet fever have been placarded, the application of cards proving acceptable rather than annoying, as a rule. The character of the population is shown by the fact that the cards are printed in French as well as in English. Diphtheria was prevalent throughout the year; of two hundred and thirty-seven cases, seventy-eight died, a mortality of thirty-three per cent.

The cases were scattered throughout the city, not manifesting a preference for any particularly unhealthy locality, though the older and more thickly settled portions of the city suffered the most.

There was no small-pox during the year. The attention of manufacturing corporations was called by circular letter, to the necessity for compliance with the statute requiring them to vaccinate all their employees who had not been successfully vaccinated within five years, with the result of securing such compliance to a large extent.

We believe no money is spent in Lowell which yields larger returns than that devoted to the health department of the city government. This report emphasizes the great need of a city hospital, and wisely suggests as a beginning the construction of wards for the isolation of contagious disease. It would be well that the dangers of a too immediate proximity of such wards to the main buildings should not be forgotten.

[1] See page 3 of the Journal.

[2] See page 225 of the Journal.

THE BOSTON

Medical and Surgical Journal.

THURSDAY, SEPTEMBER 19, 1889.

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ETIOLOGY AND TREATMENT OF ACNE.

AT the recent International Congress of Dermatology and Syphilography, Barthelemy, of Paris, made a contribution to the etiology and treatment of that common cutaneous disease, acne.

He emphasized the fact that the ingestion of altered or spoiled foods, and sometimes simple indigestion, may give rise to cutaneous eruptions as urticaria. Among these eruptions, *ab ingestis*, there are inflammations of the sebaceous follicles, and it is well known that in certain subjects we may produce acne at will by the administration of iodides and bromides.

Starting from this datum it is impossible not to be struck by the relations which connect the digestive functions with acneïc eruptions.

More precise notions are now possessed concerning these relations since Bouchard published his researches on the digestive troubles and on the auto-intoxications which are the consequence of dilatation of the stomach. Barthelemy has studied the subject of acne in connection with gastrectasis. Out of 169 cases of acne, in 165 the signs of dilatation of the stomach (clapotement, etc.) were well marked. He remarks that the almost exclusive localization of acne on certain points seems to demonstrate that there is there an elective action of toxic substances, generated in the interior of the digestive tube. He adduces statistics to show that of all cutaneous diseases, acne is far the most frequent in gastrectasis. But if acne sometimes fails to appear, what is never wanting is seborrhœa, that fatty state of the skin which stains the clothing, retains the atmospheric dust, greases silk-paper, etc. We have here the direct effect of the digestive disturbance on the skin. Is the seborrhœa to be regarded as a simple hypersecretion in relation with poisonous ptomaines, or with a reflex vascular disorder? What seems to prove that we have here a simple hypersecretion is that this function commences only with puberty; that in certain women the seborrhœa almost completely gives place to the lacteal secretion, under the influence of lactation; — however this may be, we never have acne without previous seborrhœa. Dilatation of the stomach prepares the soil by enfeebling the organism, by lessening its resistance, and by producing seborrhœa.

Barthelemy insists that in acne we have an eruption which is auto-inoculable, like furuncle, impetigo, ecthyma, and like them, contagious. He has the proof of this in some observations which he has made, in which the conveyance of the disease by contagion was manifest.

Acne at its commencement is a papule, a true papule, flattened, depressed in the centre. It never becomes a pustule without the adjunction of divers microbes. In answer to the question, "What is the pathogenic element?" he says that he believes the *staphyloccus albus* to be the principle *par excellence* of these little cutaneous lesions.

If the pathogeny and history of the disease be such as has been indicated, the treatment is obvious: the dietetic regimen prescribed by Bouchard, and other modern authorities, for dilatation of the stomach, is clearly demanded. Gastro-intestinal antisepsis must be obtained by laxatives, by antiseptic powders of naphthol, prepared chalk, rhubarb, salicylate of bismuth, etc.

The general nutrition must be improved; concomitant affections, uterine, hepatic, etc. cured, and suitable tonics administered, to which cod liver oil will often prove an important adjunct. Remedies to prevent gastro-intestinal fermentations, as hydrochloric acid and pepsin, are often indicated, Sulphur baths and cold bathing as reconstituents have a certain utility.

But to gastro-intestinal antisepsis should be joined tegumentary antisepsis. The proper agents forfulfilling this end are the carbolic sprays, antiseptic soaps with sublimate, borax, naphthol, the application of ointments or epithems, such as the phenico-sulphuretted paste, salicylo-boric plaster with oxide of zinc, frictions with black soap, counselled by Laithe, — these, with camphoretted alcohol, are useful. In certain cases the external treatment becomes predominant; as when the acne-papules, like the lesions of scabies or smallpox, have been invaded by the pyogenic microbes, and the inflammation, bursting the barriers of the glandular tube, has spread to the surrounding cellular tissue; recourse then should be had to the red-hot platinum wire, or to punctiform electric cauterizations. This method, when applied to the face, should be practised with extreme caution, so as not to leave scars. Abscesses should be treated on general antiseptic principles.

It will be seen from the above abstract that the French dermatologist has a hobby of his own with regard to the pathogeny and treatment of acne. It is not probable that other observers will see so necessary a connection between states of the stomach (and especially gastrectasia), and acneïform eruptions, particularly those of puberty. It will, at any rate, be worth the while for physicians, profiting by the experience of M. Barthelemy, to state their cases of

acne, and in particular those that have proved rebellious to all the ordinary modes of treatment, from the stand-point which he has indicated; possibly they may now and then find digestive disturbances the *fons et origo mali*.

THE APPROACHING MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

As will be seen by a notice in another column, the American Public Health Association is to hold its annual meeting at the Brooklyn Institute from October 22d to 25th. The topics named for consideration include such important ones as the Causes and Prevention of Infant Mortality; Railway and Steamship Sanitation; Methods of Scientific Cooking; the Prevention and Restriction of Yellow Fever; Tuberculosis and Diphtheria; Compulsory Vaccination; and "Sanitation of Asylums, Prisons, Jails and other Eleemosynary (*sic*) Institutions."

The Sanitary Exhibition in connection with the meeting is to be made a feature of great interest; and we are glad to observe is to be open to the general public October 22d, and to remain open till December 1st. The articles exhibited are divided into nine divisions, having reference respectively to the Dwelling, Schools and Education, Factories and Workshops, Clothing and Dress, Food, Sanitary Engineering, Public Health Administration in Cities and Towns, the Laboratory, and the Red Cross Section. In some of these divisions there are many classes. For example, under the Dwelling, we have — Dwellings; models and designs for sanitary dwellings. Treatment of the site: foundations, drainage, drainage tiles, etc. Materials for construction: bricks, tiles, floors, cements, etc. Heating: devices and appliances for furnaces, stoves, water and steam heating apparatus. Ventilation. Lighting. Domestic water supply: purification, filters, water fittings, etc. Plumbing: traps, sinks, water closets, baths, etc. Disposal of waste: domestic garbage destructors, garbage receptacles, etc. Sanitary furniture, refrigerators, wall paper (non-arsenical), floor coverings, etc.

Under the division of food, we have — Selected displays of unprepared animal and vegetable substances used as food or in the preparation of food. Prepared vegetable substances used as food, including canned and prepared, and preserved fruits and vegetables; prepared cereals, meals, flour, biscuits, bread, etc.; syrups, sugars, etc. Prepared animal substances used as food: canned, smoked, salted, preserved and prepared animal foods, including honey. The dairy: products of the dairy. Beverages of all kinds: alcoholic, non-alcoholic, tea, coffee, cocoa, chocolate, etc. New varieties of food: food for infants and invalids. Articles and devices used in the preparation of food: cooking-stoves, ranges, etc.; vessels for preserving food, etc. Adulterants and adulteration.

The expense of the exhibition is to be defrayed by an assessment upon each exhibitor; and at the close of the exhibition the Association will award its diploma to meritorious articles, on the recommendation of expert judges.

It is to be hoped that the attendance upon this meeting will be as great as the interest of the subject merits.

CORRELATIVE PROGRESSION OF ALCOHOLIC LUNACY AND GENERAL PARALYTIC DEMENTIA.

AT the recent International Congress of Mental Medicine, Garnier presented some statistics showing that the number of insane in Paris has increased the past few years in alarming proportions, the admissions to the asylums being thirty per cent. greater the last six years than during any similar previous term.

Mental alienation is more common in the male than in the female (males 55.61 %; females 44.38 %). More people become insane in the spring months than in any other season of the year; the maximum of frequency of the various forms of insanity may be said, however, to be in June.

The numerical increase of the last few years is, above all, due to the fact that there are two morbid types whose frequency is in very rapid progression: alcoholic lunacy and general paralysis. The essential psychoses, such as mania, melancholia, chronic delirium or progressive systematized psychosis, remain almost stationary, and are, in general, twice as common in the female as in the male. The progression of alcoholic insanity is so rapid that its frequency is twice as great to-day as it was fifteen years ago. To alcoholism is due, at the present day, almost one-third of the cases of mental alienation observed at the special infirmary.

The observations of the delirious forms of alcoholic insanity shows that the reactions which develop under its use are from day to day more violent, more dangerous to life, consequences which it is proper to attribute to the toxic character of the alcohols actually in use.

General paralysis, which is, with alcoholic insanity, the morbid form whose increase has gone on at the most rapid rate, figures for twelve per cent. in the totality of patients registered at the depot. In fifteen years its frequency has more than doubled.

Charts were shown at this meeting which made plain the simultaneous increase of alcoholic insanity and general paralysis, proving also that their progression is correlative. "In the solidarity of their invading march," said Dr. Garnier, "appears clearly demonstrated the etiological influence of alcoholism on the development of interstitial encephalitis."

MEDICAL NOTES.

— Schultze points out that it is far better to use two fingers for vaginal examination, not only because the middle finger is longer than the index, but still more because with two sensitive surfaces, the relative position of which can be varied, we can find infinitely more than with one.

— Denver, Colorado, has just completed a $30,000 hospital.

— The first general meeting of the Continental Anglo-American Society will take place at the Grand Hôtel, Paris, on Monday, September 30th, at 5 P.M., and the first annual dinner will also take place at the Grand Hôtel at 8 P.M., on the same evening. The following gentlemen are honorary Presidents of the Society: Sir Spencer Wells, Sir Joseph Lister, Dr. Richard Quain, Professor Ball, Professor Brown-Séquard, Dr. Ricord, Dr. J. S. Billings, Dr. Fordyce Barker, and Dr. Weir Mitchell.

— Dr. Thomas King Chambers, the author of "Manual of Diet and Regimen in Health and Disease," has lately died in England. Life-long ill-health (due to the recurrence of aneurism, first of the left popliteal artery, then of the right, and finally of both carotids, accompanied by heart disease,) prevented his taking the part in active medical practice which his ability and energy entitled him to.

— The Southern Surgical and Gynecological Association will meet in Nashville, Tenn., November 12th, 13th and 14th, 1889. A preliminary programme has been issued announcing thirty-five titles. Hunter McGuire, M.D., LL.D., Richmond, Va., *President;* W. E. B. Davis, M.D., Birmingham, Ala., *Secretary.* Members of the Medical Profesion are cordially invited to attend.

— At the last meeting of the Faculty of the Medico-Chirurgical College, Dr. Ernest Laplace, of Philadelphia was appointed Professor of Pathology. Professor Laplace is a native of New Orleans, and a graduate of the Literary Department of the Georgetown University, D. C. After several years' study in Tulane University and the Charity Hospital he went abroad and graduated in the "Faculté de Medicine de Paris," where he studied under Pasteur and Cornil. Dr. Samuel Wolfe, of Skippack, Pa., will fill the chair of Physiology for the coming year.

— Dr. James Crichton Browne's address before the Psychological Section of the British Medical Association was upon the "Hygienic Uses of the Imagination." He dwelt upon the uses of fiction in soothing the mind and giving it a proper mental balance. Contrary to the usual belief that the imagination is most active among the insane, he said that, as a rule, the lunatic is as dull as a stone. "He is the victim of a fixed idea, or his delusions occur in groups so unvarying that having ascertained one of them you can predict the rest." As "idiocy is the absolute negation of imagination, and insanity undermines and destroys it more or less," it is important that the imagination should be evoked.

— The recent death by suicidal hanging, in Illinois, of Dr. David Tilton Brown, formerly superintendent of the Bloomingdale Asylum, N. Y., is reported to have been caused by the chagrin due to the publication by a reporter of a New York daily paper of the fact of Dr. Brown's identity with the former well-known alienist. Through overwork and a close application to that special branch of mental study, his own mind became affected and signs of insanity appeared. It was at the time supposed by many persons that Dr. Brown had died; but he had really been taken away to a quiet place, and was undergoing treatment when the reporter discovered the fact and forced his way into the presence of the retired physician, after which, says a writer in the *Boston Advertiser*, he wrote a highly sensational report of his proceeding. Much criticism was made at the time of the publication of this report, and much fear was expressed concerning the effect which the publication would have upon Dr. Brown. The fear was justified. He was so mortified and distressed concerning the event that he has just ended his life with his own hand.

— Yellow fever is reported as raging at Vigo, in the province of Pontevedra, Spain. Two cases of cholera, one of which has terminated fatally, are also reported to have occurred in Hungary near the Austrian frontier. Cholera appeared in Mesopotamia, as shown by the following dispatch published in the Marine Hospital Service *Bulletin* under date September 13.

"Cholera, since July 27th, made its entry into Mesopotamia in as mysterious a manner as it made its appearance into Egypt in 1883. It is certain that it penetrated from Bombay via Bassora; it could not as yet be determined how. Perhaps, as in Egypt, through Arabian stokers (firemen), who are employed on the English steamers of the Bassora-Bombay Line, and who, upon their arrival at Bassora, go to their homes. At first cholera appeared at Schatra (3,000 inhabitants), two and a half days' journey from Bassora, at the Schatel-Hay Canal, which connects the Tigris with the Euphrates River. In a few days from July 27th to August 6th, 308 persons died. On the 1st of August it appeared at Naszric (8,000 inhabitants), southerly from Shatra near the embouchure of the Schatel-Hay into the Euphrates — a city which was founded in 1872, by Natir Pasha, the Montefik sheik. From the 1st to the 9th of August, 293 deaths occurred — on the 8th of August, so many as 85. The houses are situated upon the flat marsh land, and are only reed huts. The inhabitants carry on the culture of rice and some cattle raising. It finally made its appearance at Bassora on August 6th, and at first an Arabian girl died who had come there ten days before from Filie in Persia. On August 9th, 15 deaths occurred there. The reports of Gazala, the sanitary physician, do not allow any doubt to arise as to the diagnosis."

BOSTON AND NEW ENGLAND.

— The Quarterly Meeting of the Rhode Island Medical Society was held at Providence, September 12, about 80 members attending.

— The will of Mrs. Ellen M. Gifford, of New Haven, who died recently, after giving legacies of about $150,000 to her own and her husband's relatives, and $50,000 to various friends, leaves the rest of her property to charitable objects. The New Haven

Hospital gets $50,000, with power to the executors to increase it to $90,000; the New Haven Dispensary, $5,000; the New York Society for the Prevention of Cruelty to Animals, $50,000; the Massachusetts Society of the same name, $25,000, and $30,000 for the support of a home for stray and suffering animals at Boston; the New York Society for the Relief of the Ruptured and Crippled, $25,000; the Connecticut Prison Association, $5,000; the New Haven Society for the Prevention of Cruelty to Animals, $5,000; the Massachusetts General Hospital, $10,000; the McLean Insane Asylum, $5,000; the Boston Port and Seaman's Aid Society, $5,000; the Massachusetts Society for Aiding Discharged Convicts, $5,000; for aiding poor, sick, and incurables, $20,000; the New York Society for the Prevention of Cruelty to Children, $5,000; the New York Society for the Relief of the Destitute Blind, $5,000; the New York Colored Home and Hospital, $5,000; the Washington Society for the Prevention of Cruelty to Animals, $5,000; the New Hampshire Society for the same object, $5,000, and the Massachusetts Society for the Prevention of Cruelty to Children, $5,000.

Miscellany.

NEW YORK PHYSICIANS MUST BE ABLE TO READ AND WRITE.

A recent law passed by the New York State Legislature adds to the advancement of the preliminary training of the medical students. It reads: "Before the Regents of the University of the State of New York, or the Trustees of any Medical School or College within this State, shall confer the degree of Doctor of Medicine upon any person who has not received a Baccalaureate Degree, in course from a College or University duly authorized to confer the same, they shall require him to file with the Secretary or recording officer of their University or College, a certificate showing that prior to entering upon the prescribed three years' study of medicine he passed an examination conducted under the authority and in accordance with the rules of the Regents of the University of the State of New York, in arithmetic, grammar, geography, orthography, American history, English composition, and the elements of natural philosophy, and such certificate shall be signed by the Secretary of the Regents, and countersigned by the Principal or Commissioner conducting the examination."

MILK EPIDEMICS.

Now that so much public attention has been drawn to the dependence of epidemic diseases upon milk supplies, it is not surprising, and, indeed, it is satisfactory to find that close watch is kept upon all such possibilities by those engaged in public health administration. There have been recently two important inquiries in England, says the *Medical Press and Circular*, into milk infection, by Dr. Page and Dr. Parsons respectively. In the former case, scarlet fever and enteric fever were ascribed at Spennymoor, in Durham, to milk, and although there was much *primâ facie* suspicion, Dr. Page concluded finally that it was an instance of coincidence merely. Thus, the scarlet fever was practically endemic, and depended on matter-of-fact methods of spread, whilst the enteric fever, though slightly prevalent at the farm whence the milk came, was not judged to be directly dependent on this, but to be due to other unwholesome conditions. In Dr. Parsons's most interesting inquiry into scarlet fever "with associated diphtheria and sore throat" at Macclesfield, where some very interesting clinical features were brought out, there was no question as to the causation by a certain milk supply of the complex affection observed. Elimination of other sources of infection narrowed the question down to the milk of a newly-calved cow, which had come into the supply just before the major outbreak of the epidemic. That this had to do with it there was no question; but here investigation of the problem came to a standstill, for no disease of udders or coats could be definitely made out. The case, however, closely resembles those of Power's well-known inquiries at Hendon and elsewhere; and our contemporary thinks that probably Dr. Parsons is correct in his conjecture as to the influence of the puerperal condition of the cow in developing the potentiality of human infection.

CONVENTIONAL MOURNING OR HEALTH?

The *New York Medical Journal* asks this pertinent and important question and then discourses the subject.

"Which shall it be? The time has come to choose. Unmitigated mourning must go. A movement has been started in England to put an end, if possible, to the present irrational mourning costumes that exact of women great personal inconvenience, physical injury, and disastrous expense. The conventional costume of a well-bred widow, for instance, possesses every known quality of unhygienic, non-æsthetic, and costly dress. Proper exercise while she is wearing it is out of the question. Seclusion is secured in ways less barbarous perhaps than inducing deformity of the feet, yet our occidental mourning customs effectually keep women within doors. The heart of the stoutest warrior might quail within him if a quiet stroll required the wearing of two crape veils, each six feet long originally and only slightly shortened, but not lessened in weight, by a hem half a yard deep — one veil to be worn over the face and the other to hang down the back! The widow's gown must be inconveniently long, the outside garment must cling, and both must be made of inelastic, non-inspiring material. Add to this that within, which passeth show, and the picture is pretty black. The husband who loses his wife escapes such outward trappings, not being forced to adopt any special habiliments that can incommode or injure him. A simple band around the hat announces the fact of his changed circumstances and secures freedom from idle questions. Strange inconsistency of custom that thus discriminates between men and women, and always to the disadvantage of women in point of health!

"In this new crusade of common sense Lady Harberton takes the lead, setting forth in a recent article the reasons why existing mourning costumes should

be abandoned by all sensible women. The materials now in use are in themselves injurious, the dyes being often of a poisonous nature and frequently injuring the skin and ruining the complexion. What woman who indulges in conventional mourning escapes the staining process resulting from damp crape? Only the victim can know the energy and perseverance required to remove from brow and neck the literal clouds that gather from such a cause. The harm to the exterior of the body is easily perceived. Not less injurious is the irritation to the respiratory tract caused by minute loose particles of poisonous crape. To the pang of separation is added the thought that our loved ones are condemned to suffer physical discomfort for a year or two, and, possibly, disease for an indefinite period. . . .

"The moral influence of mourning is even more to be deplored than its physical effects. Gloomy garments, darkened rooms, all the subdued life of the house of mourning, depress the powers, lower vitality, and absorb an undue quantity of domestic ozone. Such unwise fashions tend to stultify the wonderfully recuperative powers of time and nature. Hugging grief to keep it warm is a poor business, and so is the worship of sorrow. Speed the day when it shall be considered unbecoming to wipe our eyes upon the public, or to dust our neighbors' shelves with any personal woe! All that Diogenes asked of Alexander was that the king should stand out of his sunshine. And we all have a right to demand of society that it take its mourning out of humanity's sunshine."

NOTE ON INTRA-THORACIC GROWTHS DEVELOPING FROM THE THYROID GLAND.

DR. WILLIAM OSLER, of the Johns Hopkins University, writes in the *Medical News* of September 7th, regarding the development of intra-thoracic growths from the thyroid glands. It has been shown, he says, that portions of thyroidal tissues may be met with anywhere from the base of the tongue to the heart, and in regions lying between these points the so-called struma tumors may be found, or even in rare instances within the trachæ. Thyroidal growths also occur within the thorax most commonly sub-sternal in position, and connected directly with the gland. Of these a number have been described (Virchow, *Geschwülste*, bd. 3). More rare tumors develop from the deeper portions or aberrant bits of a lateral lobe and extend into the chest, forming large intra-thoracic growths.

A most remarkable case is quoted from Dettrich (*Prager med. Wochenschrift*, No. 31, 1887). In a woman aged sixty, who had suffered for some time with cough and hæmoptysis, there was found, filling the greater part of the right side, a cystic tumor the size of a man's head. It was covered by the parietal pleura and naturally caused great compression of the lung. Above it was connected with the right lateral lobe of the thyroid. The cyst had yellowish brown contents, and contained cholesterin. Kretschy (*Wiener med. Wochenschrift*, 1877) describes a sarcoma of the thyroid, four and three-quarters inches in length, which formed an extensive mediastinal tumor passing to the level of the ninth dorsal vertebræ.

In the following case, No. 702, Post-mortem Records, Montreal General Hospital, there was a tumor similar in situation to Dettrich's, though not so large.

The patient, a woman had died with symptoms of purulent bronchitis. There was no special emaciation. Occupying the top of the left thoracic cavity, outside the pleura, was a mass the size of a large orange, closely attached to the œsophagus. The arch of the aorta lay on the right side, the left subclavian passed directly over it, and the left carotid passed just beside it. There was no special connection with any thoracic organ, though filling completely the top of the left thorax. There was a large bronchocele, the left lobe of which was in contact with the tumor and could not be isolated from it.

On section, it consisted of a series of imperfectly separated cysts containing a yellow brown fluid in which were plates of cholesterin. The upper part of the tumor was firm and hard; some of the septa had calcified, others had a fibro-cartilaginous consistence.

The relations of this mass, its anatomical character, and the nature of the contents of the cysts, identical with that which is found in so many cases of old bronchocele, left no question that it had developed from an outlying lobule of the left thyroid.

In connection with the case of Kretschy, above referred to, Dr. Osler refers to a similar instance reported by him a few years ago (*Montreal General Hospital Reports*, Vol. 1, 1880):

A girl, aged sixteen, had been under treatment for what appeared to be ordinary bronchocele. It had grown with great rapidity. There was marked difficulty in breathing, and the question of tracheotomy was considered, but as the dyspnœa became easier the operation was deferred. Death occurred suddenly. Post-mortem, a tumor was found which involved exclusively the left lobe of the thyroid, and formed a large round mass eight inches in circumference; above it extended to the level of the thyro-hyoid ligament, while below it passed down beside the trachea to the bifurcation. From behind, the mass had an elongated somewhat oval shape; the lower end rested upon the left bronchus. Along this surface it measured one and three-quarters inch in length. At the upper right angle of the mass in front was a small thin remnant of the left lobe capping the tumor, the tissues of the two blending, not separated by a capsule. The right lobe of the thyroid was of normal size and appearance. Histologically the growth consisted of small lymphoid corpuscles.

This case was reported as one of lympo-sarcoma of the deep cervical glands involving the thyroid, and simulating goitre, but the author now has no doubt that it was a case similar to Kretschy's, in which the growth developed from a thyroidal lobe with extensions down the trachea.

Correspondence.

QUACK MEDICINE IN GERMANY.

BOSTON, June 17, 1889.

MR. EDITOR, — To those who regard with admiration the "paternal" governments of Europe, I beg leave to present the following extract from a recently issued work:

Referring to the political methods of Bismarck, we read that, "In the Fatherland the Government charges itself with watchful solicitude for the morals of its subjects. But as even Homer sometimes nods, so the most vigilant of Administrations sometimes fails to discover that the columns of German newspapers are defiled by the in-

sertion of advertisements of immoral pills or by the addresses of unclean doctors. Where, however, any newspaper continuously opposes itself to the will of the authorities, the custodian of public morals puts on his spectacles, and woe betide the unfortunate journal, if, in the obscurest corner of his badly-printed page, there should be discovered lurking an allusion to the objectionable pill or the disreputable physician. The Administration is down upon him at once, and punishment is heaped on punishment until the editor consents to dance to the piping of Power. Then the custodian of public morals once more slumbers and sleeps, and the quack advertises his pills in peace."

Although the above is written especially in reference to the methods of government as forming and guiding public opinion on matters of world-wide importance, as well as on the action of private individuals in relation to those in power, the philosopher in medicine may see wherein the health and morals of the single citizen, and consequent welfare of the state, are involved. Very respectfully,

F. B. STEPHENSON, M. D.
Surgeon U. S. N., A. A. S.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 7, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	709	338	24.50	15.82	14.84	2.10	3.50
Philadelphia (Aug. 31st)	1,040,245	401	157	17.76	11.76	6.96	5.04	2.40
Chicago	830,000	—	—	—	—	—	—	—
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	157	68	20.48	11.52	14.08	4.48	—
St. Louis	450,000	138	55	15.33	8.03	8.03	2.92	2.92
Boston	413,367	227	96	23.32	14.96	14.96	2.64	5.28
New Orleans	250,000	113	34	22.25	8.90	7.12	.89	3.56
Cincinnati	225,000	—	—	—	—	—	—	—
Washington	225,000	94	38	22.26	11.66	11.66	4.24	5.30
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	36	13	38.92	11.11	30.58	5.56	—
Charleston	60,145	34	17	5.88	11.76	2.94	—	—
Portland	40,000	20	7	30.00	25.00	30.00	—	—
Worcester	78,292	33	17	39.39	12.12	27.27	3.03	3.03
Lowell	71,518	51	31	49.00	13.72	35.28	1.96	9.80
Cambridge	65,552	21	11	28.56	14.28	14.28	—	4.76
Fall River	62,647	41	23	48.80	7.32	39.04	2.44	2.44
Lynn	53,334	15	—	26.66	6.66	20.00	—	6.66
Springfield	40,731	17	4	35.24	5.88	5.88	5.88	11.76
Lawrence	40,619	27	14	18.50	3.70	—	11.10	3.70
New Bedford	37,253	16	8	37.50	6.25	37.50	—	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	16	6	25.00	6.25	6.25	6.25	6.25
Brockton	28,813	6	2	33.33	—	33.33	—	—
Chelsea	28,167	5	1	40.00	20.00	40.00	—	—
Haverhill	26,058	9	—	—	—	—	—	—
Taunton	25,170	12	1	25.00	25.00	8.33	16.66	—
Gloucester	24,263	7	6	71.40	—	71.40	—	—
Newton	21,553	2	1	—	—	—	—	—
Malden	19,774	13	8	61.52	15.38	61.52	—	—
Fitchburg	17,534	9	3	22.22	11.11	22.22	—	—
Waltham	17,332	10	3	10 00	30.00	—	—	10.00
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	6	2	16.66	—	16 66	—	—
Quincy	13,728	6	3	66.66	—	16.66	16.66	16.66

Deaths reported 2,260: under five years of age 967; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 511, consumption 291, acute lung diseases 138, diarrhœal diseases 314, diphtheria and croup 74, typhoid fever 72, whooping-cough 27, scarlet fever 8, cerebro-spinal meningitis 8, measles 4, erysipelas 4. From whooping-cough, New York 15, Philadelphia 5, Cambridge 2, St. Louis, New Orleans, Worcester, Fall River and Springfield 1 each. From scarlet fever, New York and Philadelphia 3 each, Baltimore and Lawrence 1 each. From cerebro-spinal meningitis, New York 2, Philadelphia, Boston, Washington, Worcester, Springfield and Quincy 1 each. From measles, New York 2, Lowell and Salem 1 each. From erysipelas, New York 3, St. Louis 1. From malarial fever, New Orleans 11, Philadelphia 5, New York 4, Baltimore and Fall River 2 each, Nashville 1.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,555,406 for the week ending August 10th, the death rate was 18.8. Deaths reported 3437: Infants under one year 1259. Acute diseases of the respiratory organs (London) 149, diarrhœa 548, whooping-cough 60, measles 58, scarlet fever 52, diphtheria 38, fever 29. The death rates ranged from 13.9 in Oldham to 34.6 in Preston, Birmingham 18.7, Bradford 19.5, Hull 21.6, Leeds 20.3, Leicester 20.5, Liverpool 19.2 London 16.4, Manchester 24.5, Newcastle-On-Tyne 30.8, Nottingham 18.0, Sheffield 23.9, Sunderland 28.4.

In Edinburgh 15.1, Glasgow 21.0, Dublin 24.8.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,555,406, for the week ending August 24th, the death-rate was 17.2. Deaths reported 3,151: infants under one year of age 1,085; acute diseases of the respiratory organs (London) 115, diarrhœa 394, whooping-cough 60, scarlet fever 50, diphtheria 49, measles 41, fever 41, small-pox (Leeds) 1.

The death-rates ranged from 11.1 in Brighton to 34.0 in Plymouth: Birmingham 15.9, Bradford 12.4, Hull 23.6. Leeds 15.8, Leicester 18.0, Liverpool 19.0, London 14.9, Manchester 24.4, Norwich 14.9, Nottingham 15.4, Sheffield 21.5.

In Edinburgh 14.7, Glasgow 20.9, Dublin 25.1.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,555,406, for the week ending August 31st, the death-rate was 169: deaths reported 3,091: infants under one year of age 929; acute diseases of the respiratory organs (London) 148, diarrhœa 296, whooping-cough 60, diphtheria 52, scarlet fever 51, measles 48, fever 36.

The death-rates ranged from 9.0 in Derby to 29.7 in Wolverhampton: Birkenhead 20 9, Bradford 20.4. Bristol 16.4, Hull 21.3, Leeds 17.8, Leicester 9.7, Liverpool 19.7, London 15.1, Manchester 23.4.

In Edinburgh 16.2, Glasgow 19.3, Dublin 26.6.

The meteorological record for the week ending Sept. 7, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps: —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, Sept. 7, 1889.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.		8.00 P. M.	Daily Mean.	8.00 A. M.		8.00 P. M.	8.00 A. M.		8.00 P. M.	8.00 A. M.		8.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday,... 1	30.34	66.0	70.0	61.0	77		89		N.		E.	8		5	C.		C.		.0
Monday,.. 2	30.26	66.0	75.0	56.0	91		80		S.W.		S.W.	2		8	G.		C.		.0
Tuesday,.. 3	30.15	71.0	82.0	60.0	82		84		S.W.		S.W.	5		8	C.		C.		.0
Wednes. .. 4	30.17	72 0	83.0	60.0	85		90		S.W.		S.W.	6		12	C.		C.		.0
Thursday,. 5	30.16	70.0	79.0	61.0	85		91		0		S.	0		10	C.		O.	0.25	.1
Friday,.... 6	30.12	77.0	83.0	71.0	86		86		S.		S.	9		8	O.		F.		.0
Saturday,. 7	30.20	68.0	71.0	64.0	100		90		S.		E.	5		8	G.		O.		.0
Mean for Week.																			

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 7, 1889, TO SEPTEMBER 13, 1889.

With the approval of the Secretary of War, the leave of absence granted Major JOHN H. JANEWAY, surgeon, in S. O. 52, July 29, 1889, Division of the Pacific, is extended two months. Par. 1, S. O. 206, A. G. O., September 5, 1889.

By direction of the acting Secretary of War, the leave of absence on surgeon's certificate of disability granted First Lieutenant FREEMAN H. WALKER, assistant surgeon in S. O. 92, April 20, 1889, from this office, is extended one month on surgeon's certificate of disability. S. O. 211, A. G. O., September 11, 1889.

SOCIETY NOTICE.

AMERICAN PUBLIC HEALTH ASSOCIATION. — The Seventeenth Annual Meeting will be held in the Hall of the Brooklyn Institute, Washington and Concord Streets, Brooklyn, October 22, 23, 24 and 25, 1889. Addresses of welcome will be delivered by Hon. Alfred C. Chapin, Mayor, on behalf of the city, and by Alexander Hutchins, M.D., on behalf of the medical profession

The following topics have been selected for consideration at the meeting: (1) The Causes and Prevention of Infant Mortality. (2) Railway Sanitation. (*a*) Heating and ventilation of railway passenger coaches; (*b*) water-supply, water-closets, etc.; (*c*) carrying passengers infected with communicable diseases. (3) Steamship Sanitation. (4) Methods of Scientific Cooking. (5) Yellow Fever. (*a*) The unprotected avenues through which yellow fever is liable to be brought into the United States; (*b*) The sanitary requirements necessary to render town or city proof against an epidemic of yellow fever. (*c*) The course to be taken by local health authorities upon the outbreak of yellow fever. (6) The Prevention and Restriction or Tuberculosis in Man. (7) Methods of Prevention of Diphtheria, with Results of such Methods. (8) How far should Health Authorities be permitted to apply known Preventive Measures for the Control of Diphtheria. (9) Compulsory Vaccination. (10) Sanitation of Asylums, Prisons, Jails and other Eleemosynary Institutions.

Exhibition of sanitary goods and appliances in another large hall close by.

J. H. RAYMOND, M.D.,
Chairman Executive Committee.

OBITUARY. ADDINELL HEWSON, M.D.

Dr. Addinell Hewson, a distinguished physician and author, died at his residence in Philadelphia, 1434 Spruce Street, September 11th, in his sixty-first year. He was a graduate of Jefferson College in 1850, and subsequently pursued his studies in Paris and Dublin. He was at one time resident physician at the Pennsylvania Hospital, and visiting surgeon at the Episcopal, Willis Ophthalmic, and Pennsylvania Hospitals. He was the author of numerous works on surgery.

OBITUARY. THOMAS L. REED, M.D.

Dr. Thomas L. Reed, formerly a prominent physician of Philadelphia, died suddenly from angina pectoris at Cape May, September 11th. He has been subject to acute attacks of the ailment which proved fatal, and his death was brought on by over-exertion. Dr. Reed was born in 1822, and was a self-made man. When twelve years of age he entered the employ of a large grocery store, and at odd hours spent his time in educating himself. He subsequently taught school for several years, saved enough money to study medicine, and graduated from the Jefferson Medical College in 1846. When he retired, in 1871, he had a large practice, and was ranked among the foremost of Philadelphia's physicians.

BOOKS AND PAMPHLETS RECEIVED.

Notes on the Electro-Magnet in Ophthalmology, with a Report of Nine Cases. By Wm. Ellery Briggs, M.D. Reprint. 1889.

Sixth Annual Announcement of the Medical and Dental Department of the National University. Washington, D. C. 1889-1890.

The Treatment of Fractures of the Neck of the Femur by Immediate Reduction and Permanent Fixation. By N. Senn, M.D., Ph.D., etc. Reprint. 1889.

Index Catalogue of the Library of the Surgeon-general's office, United States Army. Authors and subjects. Vol. X, O-Pfutsch. Washington: Government Printing Office. 1889.

On Disordered Digestion and Dyspepsia. By Frank Woodbury, A.M., M.D., Fellow of the College of Physicians of Philadelphia, etc. Detroit, Mich.: George S. Davis. 1889.

Transactions of the American Surgical Association, Vol. VII. Edited by J. Ewing Mears, M.D. Philadelphia: Printed for the Association and for sale by P. Blakiston, Son & Co. 1889.

A Manual of Chemistry for the use of medical students. By Brandreth Symonds, A.M., M.D., assistant physician to Roosevelt Hospital, etc. Philadelphia: P. Blakiston, Son & Co. 1889.

A Laboratory Guide in Urinalysis and Toxicology. By R. A. Witham, A.M., M.D., Professor of Chemistry and Physics in the Medical Department of the University of City of New York, etc. Second edition. New York: William Wood & Co.

Text-Book of General Therapeutics. By W. Hale White, M.D., F.R.C.P., Senior Assistant Physician to and Lecturer on Materia-Medica and Therapeutics at Guy's Hospital. With illustrations. London and New York: Macmillan & Co. 1889.

Prolapse of the Womb. With especial reference to the (so-called) Hypertrophic Elongation of the Supra-Vaginal Portion of the Cervix. with Report of a Case. By Lewis H. Adler, Jr., M.D., late Resident Physician University Hospital, Philadelphia. Reprint. 1889.

Spinal Caries: Operative Treatment. Laminectomy or so-called Trephining of Spine. By De Forest Willard, M.D., Ph.D., Clinical Professor of Orthopedic Surgery in the University of Pennsylvania, surgeon to Presbyterian Hospital, etc. Reprint. Philadelphia, 1889.

Lectures on Obstetric Nursing. Delivered at the Training School for Nurses of the Philadelphia Hospital. By Theophilus Parvin, M.D., Professor of Obstetrics and Diseases of Women and Children at Jefferson Medical College; Obstetrician to the Philadelphia Hospital. Philadelphia: P. Blakiston, Son & Co. 1889.

A Text-Book of Human Physiology, including Histology and Microscopical Anatomy, with special reference to the requirements of Practical Medicine. By Dr. L. Landois, Professor of Physiology and Director of the Physiological Institute, University of Greifswald. Third American, translated from the sixth German edition, with additions by Wm. Stirling, M.D., Sc. D., Brackenburg, Professor of Physiology and Histology in the Owens College, and Professor in the Victoria University, Manchester. With 692 illustrations. Philadelphia: P. Blakiston, Son & Co. 1889.

Addresses.

PRESIDENT'S ADDRESS. AMERICAN DERMATOLOGICAL ASSOCIATION.[1]

BY J. E. GRAHAM, M.D., TORONTO.

GENTLEMEN, — It is a subject for congratulation that the Thirteenth Annual Meeting of this Association should be held in Boston. The science of dermatology has been cultivated here in a pre-eminent degree. The years 1868, 1869, and 1870, mark an era in the history of the specialty on this continent. During those years a general interest in the subject seems to have sprung up in many of our larger cities, and it will be seen from the following facts that Boston was at that time one of the principal centres of activity: —

"In 1868 the Boston City Hospital opened an outdoor department in charge of Dr. Howard F. Damon, where, during the first decade, twelve thousand patients were treated. The Massachusetts General Hospital likewise inaugurated an out-patient department for skin diseases in 1869, Dr. J. C. White receiving the appointment. Here, during the first ten years, between nine and ten thousand cases were recorded."

Harvard University was among the first to institute a chair in dermatology.

Dr. Duhring, in his address delivered at the third annual meeting of this Association, makes the following reference to the earliest dermatological literature published on this continent: [2]

"According to Thacher the first medical publication of any kind in New England, and we may safely assert on this continent, was a brochure, entitled 'A Brief Guide in the Small Pox and Measles,' the author being Thomas Thacher, a noted divine as well as a learned physician of Boston, published in 1677. Other small works, as those of Colman, Boylston, and Williams, all of Boston, shortly followed."

To our first president and to his colleagues here, we, as an Association, owe much of our success in the past. It is therefore to be hoped that as we are gathered together in a city, which in some respects may not inappropriately be called the birthplace of dermatology on this continent, our meeting may be noted for zeal and unanimity of action in scientific work.

In an address such as this it is a difficult matter to select a subject that has not already been dwelt upon, and which would at the same time be of general interest. In reading over the proceedings of this Association for the past twelve years, I was struck by the enormous amount of work done by many of the members, as evidenced by the papers read. Several of the departments in the dermatological field appear to have been subjected to the keenest observation and criticism. The subject which perhaps of all others has been the least adverted to is the Prevention of Skin Diseases. Doubtless one of the reasons for this is that in these days we have our State, Provincial and National Associations, whose duty it is to investigate the causes of disease and to suggest the best means for their prevention. The Sanitary Association, however, look to the medical profession for their principal support, and it is to the honor of the profession that this support has always been given in the most generous and self-sacrificing way.

I am led by these considerations to make a few remarks upon the prevention of some forms of skin diseases, and especially that form of prevention which necessitates the enactment of sanitary laws. Passing over the exanthemata, the prevention of which has already been dealt with by our sanitary legislators, two diseases will be adverted to, which, although not dangerous to life, are disagreeable enough, and the cure of one of them sufficiently difficult to make the study of their prophylaxis a matter of importance, namely, scabies and tinea tonsurans.

Dr. J. C. White, in a paper upon the treatment of the former disease, written on account of its then great prevalence in this city, made the following remarks: "As to the general control of this affection in its well-nigh epidemic state of prevalence, it is only by drawing the attention of the profession to this activity, and to the best methods of destroying it in individual cases, that we may hope to accomplish anything."

In case of such state of prevalence would not the course of the epidemic be shortened if, instead of waiting for patients to apply for treatment, the children in the public schools and the workers in factories were inspected by competent physicians, and if necessary at once placed under treatment? In fact, I have learned that such regulations were enforced in one of our provincial towns with very successful results.

The spread of tinea tonsurans, particularly in orphan asylums, is a subject which should receive more attention than is at present given to it. This is a disease which in any case is difficult to cure, but is much more obstinate when it breaks out in a public institution. One who has had experience of the expense, labor and general worry connected with its management under such unfavorable circumstances, will appreciate the importance of the establishment of stringent regulations whereby all boys and girls admitted into orphan asylums should be carefully examined and reported upon by a competent physician before they are allowed to become inmates. Instances have no doubt occurred within the knowledge of many of us where the disease has existed for years in such homes, causing great expense and trouble, when the whole might have been prevented if proper regulations had been enforced.

I shall now refer to two diseases to a greater or less extent preventable, which in importance far surpass those already alluded to, namely, syphilis and leprosy.

When we consider that syphilis is so widely spread on this continent that its *innocent* victims may be numbered by thousands, it might at first appear surprising that so far few attempts have been made to eradicate it or even to check its progress. This history of prevention, as it has been tried in different countries, reveals the great difficulties which stand in the way and makes us hesitate before recommending any particular course. The history of success and failure of such laws in Denmark, for instance, will illustrate this point. The question has been one to which the various governments of that country have for centuries given a great amount of attention. The success of their more recent legislation, although in many ways encouraging, has not been such as was at first expected. Notwithstanding the fact that laws of this character have been for some years in force in Paris, the victims of syphilis are still very numerous, as shown by hospital statistics. These incomplete

[1] Delivered at the Thirteenth Annual Meeting, Boston, September 17, 1889.

[2] Transactions of the American Dermatological Association, 1879.

results arise largely from imperfect registration and as a consequence clandestine prostitution.

In England the Contagious Disease Acts, although not repealed, were divested of any power for good by a resolution passed by the House of Commons in 1883. The Acts were supported by the most eminent members of the profession, and if they had been continued and extended would have doubtless have done good service in the prevention of syphilis. In the report of a Royal Commission, appointed in 1870 to look into their working, the following statement appears:

"The Acts have purged the towns and encampments to which they have been applied of miserable creatures who were masses of rottenness and vehicles of 'disease.'

"We are satisfied from the evidence that the frequent examination of women is the most efficacious means of controlling the diseases."

Notwithstanding this and other strong evidence in favor of the Acts, they were practically repealed on account of persistent opposition from an influential class of the community.

From the history of sanitary legislation in this matter, the inference may fairly be drawn that if a thorough registration and periodical examination of prostitutes were made the ravages of syphilis would thereby be much diminished. It appears to be extremely difficult to effect such thorough registration, and like other laws of the kind unless well administered they had better not be placed in the Statute Book. It is unwise to advocate any legal measures and hope for their success if a large and important section of the community, from conservative motives, directly and vehemently oppose them. This opposition may to our minds seem unreasonable, but the fact of its existence is sufficient to make one hesitate in such a line of action. The great difficulties which surround this subject ought not to deter earnest and thoughtful men from attempting to grapple with them. The importance of the question is such as to demand the greatest intelligence for its solution.

There are, however, some methods of prevention about which there can be little or no difference of opinion, and which members of this Association have done much to further. All will agree that the early diagnosis and successful treatment of syphilis, both in males and females, will have a positive effect in checking the spread of the disease. To this end it is necessary that our medical students should, during their course, devote to it a careful and systematic study. Even in our larger medical colleges, where ample opportunities are given for this course of instruction, it is to be feared that a great number of students do not sufficiently appreciate the importance of the subject to take advantage of such opportunities. Many expect to practice in country districts, and make a great mistake when they think they will not meet with this affection in out-of-the-way places. Some of the worst cases of contagion are reported from small towns, and no doubt all of us have seen cases of unrecognized syphilis sent from country districts. Judging from the announcements of our smaller medical colleges we are afraid that in some of them little attention is paid to this subject.

Next in importance to the early diagnosis of the disease is the provision of free and abundant facilities for its successful treatment in hospitals. This is a work in which all classes of the community may unite, namely, in the healing of those diseased. It would seem advisable to set apart wards in general hospitals for this class of patients rather than that separate institutions should be established. These wards might be placed under the control of physicians who pay special attention to this department of medicine. Every barrier ought to be removed which would in any way prevent those diseased from applying for treatment, so that patients would find it to their advantage early to enter the hospital. They should be treated there with the same consideration as others, so as to remove that fear of control which deters many from applying for relief.

I am well aware that in many cities of this continent these or similar measures have been adopted, but there are still large communities in which little attention has been paid to the subject. How often do we hear it stated that public money should not be used in assisting this class. Such people forget that in allowing persons to remain diseased a still greater danger threatens the community at large. We are satisfied that in the democratic state of society which exists in all parts of North America more can be accomplished upon this than upon any other line yet proposed.

The careful examination of wet-nurses by competent physicians is an important point too often neglected. A bureau for the registration of nurses, such as exists in Moscow, would be found of service in our large cities. In that institution, according to a report made a few years ago, seventeen per cent. of the applicants for registration exhibited suspicious signs, while an additional four per cent. were undoubtedly affected by syphilis. The careful periodical examination of soldiers and sailors, and their immediate and thorough treatment when affected, are measures which ought to be easily enforced.

The spread of syphilis by vaccination and circumcision is a question which should be carefully looked into. Great differences of opinion exist as to what extent the youth of our country should be taught regarding the consequences which frequently follow venereal disease. Although much good may be done in this way the greatest care should be taken to state facts which can be easily comprehended by the listener. It is difficult to conceive of a subject which requires more good judgment, and it is to be deplored that instruction of the kind is often given by men in every way unfitted for the task.

The question of the spread of leprosy has for the last few months excited a good deal of attention in this country and in Europe. Addresses delivered by Dr. Morrow, in the New York Academy of Medicine, upon the history and spread of the disease in Mexico and in the Hawaiian Islands have excited the interest of professional men; while the death of Father Damien, in Molokai, has at the same time drawn popular attention to this subject.

It is very important that the thoughts of the people should be directed in a proper channel, when there is a disposition to deal with the question as one of a public character. Are there at present any grounds for alarm in consequence of the existence and spread of leprosy on this continent? Should measures be adopted for its eradication? and, if so, what course is likely to be successful?

The first question may be best answered by the statement of a few propositions about some of which the majority of scientific men are now agreed.

(1) That leprosy is contagious in the wider acceptation of that term is proved by the rapid spread in the the Hawaiian Islands, by its attacking persons not previously disposed to it after living for a time in a community of affected people, and by the discovery of a distinct bacillus which is intimately connected with the existence of the disease. Dr. Aring, in his report to the Hawaiian Government, made the following remarks with regard to contagion: "Accepting either theory, the direct or indirect transmission, we must look upon every individual leper, whether in the incipient or advanced stage of the disease, as a dangerous focus of the malady, he multiplying and nursing the germs in his own tissues." Dr. Aring further demonstrated the great vitality of the bacilli by finding them in cadavers which had been some months buried.

(2) That the disease can be conveyed from one to another by inoculation is a well-established fact. A number of cases of accidental inoculation have been reported, and the instance of the prisoner in whom the disease was produced in this way ought to set the matter at rest.

(3) That the germs may be introduced with food is a probability which has been much strengthened by Mr. Jonathan Hutchinson, in his paper recently contributed to the *British Medical Journal*.

(4) Dr. Mouritz, in his "Report on Leprosy as it existed in Molokai," dated February, 1886, ventures the opinion that the germs may be introduced by inhalation, and cites the case of Father Damien as an instance in illustration of this theory. The instances given certainly do not seem to prove the assertion, but we are not in a position to deny its truth. A great deal of weight should be given to the opinion of one who for two years has had the best opportunities for studying the disease.

(5) The hereditary transmission of leprosy was, until a few years ago, considered a settled question, and, in fact, the only way in which the spread of the disease could be accounted for. As a result of recent discoveries, the tendency of scientific opinion is in favor of the view that it is a predisposition to the malady which is hereditary, rather than the disease itself.

If the disease may be conveyed by any or all of these means, how can its slow progress on this continent be explained? There are records of cases which occurred in the early part of this century, and diseased persons have been allowed to come in from foreign lands, and still there has been no decided increase until of late years. Again, in leprous districts there are numerous instances of persons who have lived in the closest relationship with those affected, and that have themselves escaped. A marked case of this kind was reported by me in a paper on "Leprosy in New Brunswick," published in 1883.

The growth of the germs seems to depend largely upon the individual with whom they come in contact. In some races, for instance the Anglo-Saxon, as it now exists, there do not appear to be many susceptible individuals. This is strikingly shown in New Brunswick, where the disease exists almost exclusively among the French Canadians, or those connected by marriage with that race. Even then, however, there are some patients of purely Anglo-Saxon origin. In the Hawaiian Islands comparatively few of English or American descent have become affected. This immunity from the disease seems to depend upon our superior methods of living, rather than upon any racial peculiarities. It must, however, be remembered that in the most favored races there are some individuals who appear to be very susceptible, and who will contract the disease after comparatively slight exposure. Mr. Hutchinson has reported many such cases.

The conditions of the people on this continent have been such as in many ways to hinder the spread of disease. The population, as a rule, is not dense; and this is particulaly the case where leprosy is prevalent. In Minnesota, for instance, the dwellings cannot be very close together; and in Tracadie, although large families live in small houses, the whole district is more or less separated by miles of pine woods from other portions of the country.

Another explanation of the slow spread of leprosy exists in the fact that so far the disease has attacked other races than the Anglo-Saxon, and that there has been but little communication between affected persons and the latter race. In Louisiana and Canada the French race has principally suffered; in Minnesota, the Norwegian, and on the Pacific coast, the Chinese.

If, for instance, it were possible to send fifty or one hundred leprous persons of the Anglo-Saxon race into the poorer districts of one of our large cities, where they would mingle freely with the inhabitants, is it not reasonable to suppose that in a few years a number of new cases of leprosy would be developed?

In the same way, if one leprous person were so allowed to live, would it not be equally possible that three or four cases might arise, and the disease thus more slowly but quite as surely spread.

It is said that a wise statesman looks at least a hundred years ahead, and if in the year A. D. 2,000, there will be, as some statisticians say, 700,000,000 of people on the continent, or even half that number, and if the present process of centralization continues so that our large cities should become larger than any even in Europe, how impossible would it be to control this disease if it should become at all prevalent! It is probable that under such circumstances a large section of the community might become susceptible, and that leprosy might reach the dreaded proportion which at present exists in India.

In one respect the conditions are favorable for the extension of the disease, namely, that it exists in every quarter, — in the north, in New Brunswick; in the south, in Louisiana, Mexico and Trinidad; west, in California and British Columbia; while in Minnesota it is found in the very heart of the continent. Is it not possible that even now cases are coming into existence in these various localities? Indeed, only a few months ago three cases of leprosy were transferred from Cape Breton to Tracadie; and it is quite possible that diseased persons may still exist in that part of Nova Scotia.

It would thus appear that although there is no danger of a rapid spread of leprosy on this continent, there is a danger of its insidious propagation until it should reach proportions such as to make it very difficult to deal with. How hard it will be for the authorities of India to stamp out the disease, when, according to some authorities, there are nearly a quarter of million of lepers in that country!

According to statements made in a recent discussion on this subject in the New York Academy of Medicine, the number of cases on this continent has increased five-fold in the last ten years. Would it not be wiser for the various governments at once to adopt

means for the prevention of the disease rather than to wait until it has become more widely spread? These measures may be divided into two classes, the prevention of leprous persons from coming into the country, and the proper care of those who are already here. To carry out the first, it would be necessary that all suspicious emigrants should be examined by a physician thoroughly competent to diagnose the disease in its earlier stages, and if leprosy were present, they should at once be sent back to be dealt with as the authorities of their native country might determine. Doubtful cases, if allowed to remain, should be placed under surveillance for two or three years; at least experience has shown that.

The only successful method of controlling the disease in the country is the segregation of the lepers, and their complete separation from healthy persons. This is a measure very difficult to carry out, even when there are but few cases, as is shown by the history of such laws in New Brunswick. In that province it was found almost impossible to compel some diseased persons to enter the lazaretto. If such were the case when there were but a few sufferers, how much harder would it be to enforce the law were the number greatly increased! This difficulty is one of the strongest reasons why such laws should be enacted without delay.

As the disease exists in the three great sub-divisions of the continent, the United States, Canada and Mexico, it would appear necessary that an international understanding should be arrived at whereby an asylum might be established in each country, and that the law should make it compulsory for all persons in whom the disease exists in an active stage to be thus separated from the healthy portion of the community. Such asylums should be made in every way as far as possible desirable places of residence, and should be placed in charge of physicians who would make a careful study of the disease. More successful methods of treatment might thereby be discovered, thus greatly benefiting the unfortunate patients themselves.

Dr. White, in his address delivered at our first meeting at Niagara Falls, in 1874, in giving the various objects and aims of this then new organization, made the following remarks:

"In the division of our work will be included the consideration of questions which may be of national importance. Leprosy has been hovering about our borders for many years; has been introduced into the heart of the country by the importation of stock from a people prone to the disease; has been, according to a reliable report, prevailing to a limited degree within a restricted locality of our Southern States; all for many years, and yet we have seen no reason to fear that it should gain a serious hold upon us. We have regarded it as a disease so far removed from us by time and geographical position that it did not concern us especially; but the history of its progress in the Hawaiian Islands within the past few years, the growing intimacy of communication between them and us, and the immigration in enormous numbers to the Pacific Coast of a race with whom it is indigenous, make the establishment of a foot-hold of the disease upon our soil by no means improbable.

"The question of its possible contagion was lately revived by competent observers; and of its most effective management, as a part of State or international medicine, may demand before long our special attention."

In view of these remarks I feel that, in making the suggestions already offered, I am well within the scope of operations of this Association.

I have thus taken up a few points in the Prevention of Skin Diseases, in order that more attention may be directed to that subject. Some of the remarks may seem superfluous to those coming from districts where sanitary laws are fully carried out. It is, however, quite certain that in many States and cities little attention is paid to such regulations.

It has been the custom of former presidents to make suggestions pointing to the improvement of the Association. Some members are of opinion that the thorough and exhaustive discussion of one or two subjects each year might add to the interest of our meetings. Such subjects for discussion might be selected by the Council, who could also appoint a referee and co-referee to introduce them.

Another point which might be considered, is the advisability of making it a rule to hold our annual meetings in large centres of population. Some of the most interesting and useful features of our gatherings might be the exhibition of rare forms of skin diseases. This could only be developed by making such a rule as that just mentioned.

The past year is memorable by two events, the first International Congress held in Paris, and the first meeting of the Congress of German Dermatologists held in Prague. The formation of these Associations will no doubt greatly stimulate the study of dermatology, and we may expect abundant fruit in future years as the result of their labors.

I will conclude by declaring the Association open for business, according to the programme which you have all received.

PRESIDENT'S ADDRESS.
AMERICAN GYNECOLOGICAL SOCIETY.[1]

BY H. P. C. WILSON, M.D., BALTIMORE.

FELLOWS OF THE SOCIETY: — For the honor which you have conferred upon me in selecting me to preside over your deliberations, I tender you my hearty thanks. I realize that your partiality has overbalanced your judgment, that many now before me are more worthy of the honor, but not one more zealous for the good of this Society, not one more proud of the record it has made, not one more ambitious for its glorious future.

When I look down the line of pre-eminent men who have preceded me — some of whose names are as household words wherever the word "woman" is pronounced,— when I remember their achievements in this Society (as elsewhere), and realize that I stand here to take up the work which they have laid down, I should feel my utter helplessness, but for that generosity and support which I see beaming from every face before me.

As officers and privates, then, let us stand together in the future as in the past, a solid band battling for the truth in all that pertains to knowledge in obstetrics and gynecology. Let me congratulate you on meeting again under such favorable auspices in this charming city, always distinguished for its men of culture,

[1] Delivered at the Fourteenth Annual Meeting, Boston, September 18, 1889.

its lights in science, its overflowing hospitality, — "a feast of reason and a flow of soul," are vouchsafed to us. Here we shall study obstetrics and gynecology pure and unadulterated (which is the sole purpose of this Society), free from the distractions of all other ologies, free from the interruptions of large assemblies with so many diversified interests. Here, too, we shall again cultivate those social qualities which have been such a charm at our annual meetings, and which have drawn us so closely together.

The social feature of this Society is far more than mere eating and drinking; it brings the fellows together in such close intimacy that the views of one are readily exchanged for the views of another; minute points in science and practice are explained by man to man; obscure points in papers and debates are made clear; little things in operations and therapeutics (so essential) are elucidated, as cannot be done in the set essays and impromptu debates of the stated meetings. In mercantile language, our social gatherings are Gynecology on Change; and we would hold on to them as a powerful lever in elevating this Society.

On the 3d of June, 1876, in the Hall of the New York Academy of Medicine, nineteen gentlemen were assembled to found the American Gynecological Society. Twenty others, who were prevented from being present, sent in their approbation and hearty co-operation in the work undertaken; and thus thirty-nine names constituted the foundation fellows of this Society. Of these eight are dead: E. R. Peaslee, J. Marion Sims, W. L. Atlee, Albert H. Smith, J. P. White, J. D. Trask, Charles Buckingham, Ellerslie Wallace. "When shall we look upon their like again?" "They rest from their labors, but their works do follow them." Five have resigned on account of age, ill-health or other unavoidable causes. They have helped to bear the heat and burden of the day, and rest on their honors. As the shades of evening draw around them, our blessings rest upon them. Thus, of the thirty-nine foundation fellows, thirteen have passed from active membership. One-third of our original number are gone by death and resignation.

Of those who have joined us by election, we have lost eight, — five by resignation and three by death. The latter are, Drs. John Scott, James B. Hunter and Ellwood Wilson, — making twenty-one fellows in all lost to active fellowship in this Society since its foundation.

To Dr. James R. Chadwick, of Boston, is due the conception of this Society. To Dr. Fordyce Barker, more than to any other single fellow, is due its rapid growth to the stature of a strong and full-grown man. The recognition of his pre-eminent abilities, and of his labors in its behalf, has been manifested by his having been three times called unanimously to preside over its meetings, an honor which has never been accorded to any other fellow; and, while naming these, I would not detract one iota from the vigorous work by other fellows who have done so much to make the American Gynecological Society what it is to-day. Their labors are before you in our published transactions, and crown them with honor.

On the 13th of September, 1876, more than thirteen years ago, we held our first annual meeting in the hall of the New York Academy of Medicine. Twenty-eight fellows were present, and a number of distinguished foreign guests. It was my privilege to be there, and it has been with great pleasure and profit that I have attended every annual meeting since. I have always been present to answer to my name when the roll was called, and have never left till after final adjournment. I have watched with great interest and pride the history of this Society. To it can be traced many of my greatest achievements in life, and through it have been made many of my best and dearest friends. It is no wonder, then, that I should be proud of the appreciation in which it is held at home, and the fame that follows it abroad.

Whenever I have been in foreign lands, it has frequently been a passport to me in medical circles to be known as a member of the American Gynecological Society. I have repeatedly been told by medical men in Europe of the admiration they had for this Society, and the pleasure it would give them to be of its membership; and it has gained for me access to persons and places from which I should otherwise have been excluded.

It is of the first importance to me then, as to every fellow, that the reputation of this Society should be maintained, — yea, lifted far above its present elevated position. We must advance, and not rest on our past achievements.

I have already told you how many of the founders of this Society are gone; how many more are travelling down the hill of life burdened with the weight of years and loaded with innumerable cares; and how many more, in the prime of life, are overwhelmed by the daily duties of practical gynecology, from early morn to lingering eve, with nothing left of time or strength for scientific investigations. These are the men, who, under great difficulties as pioneers, have done so much to bring gynecology to what it is to-day. Nothing daunted by the shafts of ridicule, the detractions of jealousy, the threats of prosecution, Sims and his followers have pressed onward till this branch of medicine is now established on everlasting foundations.

In the natural course of things these early workers must soon rest from their labors. Their scalpels and speculums must pass into other hands; but it is with great pleasure and satisfaction that, in looking over this assemblage, I see so many men of youth, strength, diligence, brilliancy of mind and nobleness of purpose, to whom the interests of this Society can be entrusted, with the assurance that its position will be placed higher and higher in the temple of fame. Older men must step one side; younger men must take up the burden.

For the future of this Society nothing has given me more anxiety than the selection of new fellows. We want, as members, the best men in our land, men of brains, laborious men, gentlemen; men, who with cultivated minds, by patient research, can verify or disprove many of our crude pathological ideas. We want more scientific investigation into the pathology of the disease we are called on to treat. Sound pathology always insures better therapeutics. This kind of work cannot be demanded of the older members, who are constantly overwhelmed with the cares of daily practice, and whose minds are preoccupied with the questions of saving life and alleviating suffering.

It is to the younger men of this Society that we must especially look for contributions of original research, which in time, I trust, will make its transac-

tions the storehouse of all that is sound in doctrine and best in practice.

They are not yet overwhelmed with patients; and while they have the time, the strength, the fire of youth, which stimulates to exploration, we would call on them to work for gynecology, as they will not be able to do in later years. Then gynecology will work for them.

I would increase the membership of this Society, not because "in a multitude of counsellors there is wisdom" (this is not always true), but because from our widely extended country many fellows are frequently unable to attend the annual meetings, and we are sometimes reduced to a small working force. Again, with a larger membership, we would have greater diversity of talent from which to bring forth things new and old.

I would abolish the third article of the constitution, which relates to the election of fellows. I would enlarge our number from time to time by invitations to join, and cut off all applications for membership. It was by invitations that this Society was formed. It should be by invitations that it is continued and enlarged. In this way we would get the best men in our country, many of whom are now deterred by the gauntlet they have to run from applying for membership. In this way also we should escape some of the unpleasant things which confront us at each business meeting.

I would restrain this Society from all entangling alliances with other societies. The distractions of such large assemblies are not promotive of the best work in any specialty. If we would make it the great authority on all gynecological subjects, if we would make it the first in wisdom as the first in age, we must abstain from too much allegiance to other societies, and let our full strength be concentrated here. Whatever time and labor are expended on them will be subtracted from this, and by so much will its vigor and strength be diminished.

I would hold with unyielding tenacity to the social feature of this Society. Nothing should be allowed to interfere with it. The cultivation of the heart is hardly second to the cultivation of the head. Cold comfort is a damper to the soul. Nothing so much as social gatherings has tended to bind us so firmly together — a united band of brethren.

LAPAROTOMY DURING MENSTRUATION.

But, gentlemen, before closing this address, which you have required me to deliver, and which is more trying to me than many laparotomies, I must present you with one question: Shall we perform laparotomy immediately preceding or during menstruation?

This is a question which frequently embarrassed me in my earlier professional experience. Books were searched and authorities consulted for its elucidation; but I found nothing to enlighten me on the subject. The medical friends with whom I consulted advised against such a procedure. In addition to this came the paper of Dr. Horatio R. Storer, read at the first meeting of this Society, in 1876, in which he concluded "that for pelvic operations, all things being equal, it is better to select the week immediately following the cessation of the catamenia," for all such operations.

Operations per vaginam may require the selection of the uterine ebb, where such choice can be made, as the dressings and attention necessary afterward may be embarrassed by menstruation; but for laparotomies involving the pelvic organs, my experience teaches me to select the uterine flood, rather than the uterine ebb. During the uterine flood, the circulation and innervation are in a state of tonic excitement. During the uterine ebb they are in a state of relaxation and depression; and patients thus are more liable to passive hæmorrhages, the absorption of septic poison, the deadly influence of shock, than when the system is under the stimulus of the uterine flood.

It may be said that inflammatory troubles are more apt to be set up during the uterine flood. I would ask the Fellows how many of their laparotomies have been lost by inflammation other than septic. I cannot recall one in my own experience. Shock, hæmorrhage, and blood-poison have been the causes of death in all cases, and blood-poison oftener than all other causes together.

On June 19, 1871, more than eighteen years ago, I performed ovariotomy on Mrs. C. C. W. The operation had been fixed for that day; all arrangements had been made. The weather was extremely hot, and the patient was alarmingly feeble. All efforts to build up her strength were futile. She was rapidly losing strength, and I realized that she could not survive much longer. When I reached the house, where a number of physicians were assembled, I found that Mrs. W. was menstruating very freely, about six days before her time. I was in great perplexity what to do. With the patient's great feebleness and the debilitating effects of the intense heat of summer in a large city, I did not think she could much longer survive. My preconceived opinion was that no operation on any of the pelvic organs should be done during menstruation. There was no authority to which I could turn to extricate me from my dilemma. My professional brethren present did not venture an opinion. I finally came to the unassisted conclusion that it was more dangerous to my patient for me to retreat than to advance. I removed the tumor. The woman made a good recovery. Her menses were very free for several days after the operation. This was my second case of ovariotomy — both successful.

In December, 1880, I removed both ovaries from Miss A. E. by abdominal section. This was the first operation of the kind by this method in the State of Maryland. The operation was done to bring on the menopause, for a bleeding myoma in the uterine walls. She was within four days of menstruation. It came on the night of the day of the operation, and was very profuse. She is now living, in perfect health, and married, taking care of her paralyzed husband and a large family of children by his former wife.

I might go on to report many cases on whom I had performed laparotomy very near or during menstruation, but I will not detain you. Within the past year I have done a number of such, and every one recovered. I have never lost a case of laparotomy done immediately before or during a menstruation, and I am thus forced to make the uterine flood the time of selection for such operations, rather than the uterine ebb.

But, gentlemen, there is a limit to all things, even to your patience, which has been great. I thank you for your kindness. You will thank me for — well, I will not say what. A few words more and I am done.

Since our last annual meeting Death has dealt us a

terrible blow in cutting down two of our most esteemed and honored fellows, Drs. James B. Hunter and Ellwood Wilson. In no single year before has he been so merciless to us — two, for one in all previous years. The strength of this Society is made up of just such material. They were corner-stones in this superstructure. As one stone crumbles, another stronger one must replace it. To other hands I leave the preparation of memorials worthy of their characters, while we sorrow over our loss.

"In the midst of life we are in death." Who shall be the next to fall? God grant that we may so live as to be prepared to die.

PRESIDENT'S ADDRESS. AMERICAN ORTHOPEDIC ASSOCIATION.[1]

BY E. H. BRADFORD, M.D.

Before beginning the regular exercises of our Third Annual Meeting, it will be well for a few moments to bring to mind, the facts which have led to the organization of this Association.

Our Association is a pioneer association in the department of orthopedic surgery. This brings with it both honor and responsibility; for the department of surgery we are interested in will be promoted or injured according as our work is equal to or falls short of the opportunity, and we must clearly bear in mind that the progress of orthopedic surgery has not been that of uninterrupted advance.

The history of this branch of surgery has been often told, the first attempts in the correction of deformities is perhaps as old as surgery. The existence of this special branch may be said to date from the work of Andry, who, in the last century gave it a name; and it is due chiefly to a remarkable group of French surgeons, — Delpech, Bouvier, Bonnet, Malgaigne, Guerin, Pravaz, — that the specialty may be said to owe its breath of life. The German surgeons Stromeyer, Heine, Dieffenback, Langenbeck fully equalled the French in their efforts, and too much cannot be said in praise of the work of the English surgeons. Percival Pott's name is stamped indelibly on the records of our specialty; the work of Sheldrake is a tradition for us. It is, however, to Little and his school, that we Americans are more indebted than to any other foreign influence in moulding our current practice.

Even at the present time when orthopedic surgery is so well established as is now the case in America, it is easy to note European influences, — especially that of German surgery; Boeckel and Ollier, of France; Macewen, of Glasgow; and Thomas, of Liverpool.

But though great progress was made in orthopedic surgery, it is not to be overlooked that it fell from the high estate it held in general surgical interest fifty years ago, until it became an almost despised and rejected branch. The orthopedic surgeon was regarded as a man of mere straps and buckles, or the custodian of that surgical chamber of horrors, the orthopedic institute. The reason of this decline of interest is not far to seek, if we recall the fact that fifty years ago the attention of the surgical world was turned to the remarkable feats of the great surgeons who taught us precision, skill and boldness in the triumphs of the amphitheatre, and that the ambition of all men of energy prompted them to emulate those monarchs of the operating-table. The famous line in the Iliad,

Ἰητρὸς γὰρ ἀνὴρ πολλῶν ἀντάξιος ἄλλων,

was interpreted to mean the surgeon whose feats meant so much for humanity.

Following this period came the introduction of anæsthetics, which enormously enlarged the field of possible operations; and subsequently came the introduction and perfection of the antiseptic system which has enabled the surgeon to perform in his operations veritable marvels.

It is not strange that in the active current of progress the less brilliant branch of orthopedic surgery, where successes can rarely be won in the amphitheatre, and where the element of patient, persistent work is an important fact, should have been for the while passed aside by the energetic and ambitious.

The history of American orthopedic surgery shows, in a degree, the same tendency in development that existed in Europe, the same interest at one period and the same decline. In the last generation, however, when American arts and sciences had begun to free themselves from the provincialism of mere imitation of European models, the natural spirit of mechanical ingenuity became manifest in this branch of surgery. This has, perhaps, in some cases led to mechanical extravagance; but it will be universally admitted that a marked advance has been won, and that the tendency is in the right direction.

The history of orthopedic surgery in America can never be thoroughly written, as the earlier facilities for presenting cases and recording methods were necessarily imperfect in a new country. The earlier American bibliography, prior to 1860, which, through the kindness of Dr. Billings, has been copied for me from the catalogue of the Army Medical Library, shows not only much that is of interest, but indicates by what is implied as much as by what is published, that much excellent work was done which escapes the annalist.

The first triumph in orthopedic surgery in America is the classical operation by Rhea Barton (*North American Medical and Surgical Journal*, 1827, p. 279), the founder of osteotomy for correction of deformity, as McDowell is the founder of ovariotomy.

Physick's Fixation Hip Splint, described in 1831; Chase's paper on the "Treatment of Club Foot without Tenotomy" (*American Journal of Medical Sciences*), 1841; Mütter's work on "Club Foot," in 1845, — all indicate the intelligent interest taken in the subject. Excision of the hip was first performed in this country by Dr. Wilcox, of Eastern Pennsylvania, as early as 1849.

The stimulus of Stromeyer's achievements was quickly felt in America; and tenotomies were done by Rogers (1834), Dickson (1835) and Detmold (1837). To the latter belongs the credit of the first published tenotomy, the tenotomies of the two former surgeons not having been recorded. Detmold also acted *ex cathedra*, as it were, for he was fresh from the teachings of Stromeyer. The interest taken by general surgeons of the time in orthopedic surgery is indicated by the remarks of Valentine Mott, as quoted by Mütter, of Philadelphia, and by the well-known work on "Orthopedic Surgery," by Dr. Henry J. Bigelow, published in 1845, and which to-day is a model of excellence, and one of the best of publications to

[1] Delivered at the Third Annual Meeting, Boston, September 17, 1889.

illustrate the French school of orthopedic surgery, the dominant school of the time.

An operation by Dr. Sargent, of Worcester, the section of the psoas and iliacus muscle, reported before the Worcester Medical Society in 1841, was a triumph of boldness, and should not be passed unnoticed.[2] The following account is copied from the records of the Worcester District Medical Society, meeting of October 6, 1841:

"Dr. Sargent said he should relate some cases of contraction of the tendons.

"CASE I was one of contraction of tendons of lower extremities in a child, with antero-posterior curvature of the spine, adduction of both thighs so that the knees were drawn firmly together, also extension of feet from contraction of the gastrocnemii muscles. First divided the adductor longus of the right thigh, which immediately relieved its position, and abduction became perfectly easy, and in a few days the limb assumes natural position when patient lies on his back. Three days after this the same operation was performed on the left thigh with similar results. Seven days after last operation cut tendo Achillis of each heel which 'let both down at once as low as the toes'; feet assumed natural position; was able to stand on his feet in a month after operation on heels. At the present time (about nine months after operation) there is still want of control over motions of hip-joint. Walking very much improved; can go very well with only one cane; before operation could only waddle along sidewise upon his toes by leaning upon two canes.

"CASE II. A lad about thirteen or fourteen years of age came under notice in April last. About five months previous to that time, parents began to observe some deformity about left shoulder; spine of scapula was drawn upwards, and the inferior angle inwards, by permanent contraction of the trapezius and levator scapular muscles, so that the whole shoulder was raised about three inches. April 7th, made section of part of trapezius and levator scapular; on the 8th, elevation of shoulder about two inches; on the 10th, divided the remaining anterior portion of the trapezius. Owing to admission of air which followed the manipulation necessary to effect this section, and also to a peculiar constitutional predisposition of the patient, small abscesses formed, which were troublesome. After section of this muscle, by a little force, the shoulder could be depressed as low as the other. Without force, it remained elevated about one inch and a half. This was attempted to be overcome by mechanical means. Patient left, and went to Ohio a few days afterwards. Heard from him about a month after, when he had very much improved.

"CASE III. A boy eight or nine years of age, about three years ago was taken sick suddenly after some exercise taken in a long walk the day previous. In two or three days every limb became stiff and immovable as though he were dead. In this condition he lay about three weeks. After gradually improving for some time he was sent into the country (his father living in the city of Boston), where his health continued to improve. But there remained permanent contraction of the muscles of the whole left half of the body, — with lateral curvature of the spine; contraction of muscles of lower extremities, rectus femoris and adductors of both thighs, both hamstrings, and tendo Achillis of left leg. Was six or eight months under the care of Dr. Abbe, and has been subjected to a great variety of treatment without the least benefit. Was subject to violent twitchings of the muscles of diseased parts. April 27th, divided tendo Achillis of left leg. May 3d, divided adductor longus femoris. A small artery was cut, which was followed by considerable hæmorrhage, which occasioned a little abscess. Leg was let down somewhat from former position. Ten days after division of heel-cord it was perfectly united. Convulsive movements ceased in each muscle after cutting the tendons. May 19th, cut tendons of rectus femoris and sartorius; slept better the night following than he had for a long time before. This let his thigh down somewhat. After trying extension for a while, it was found, about the 2d or 3d of June, that the thigh was still held up by contraction of the psoas and iliacus internus muscles. June 17th, after consultation, proceeded to divide these muscles, which lie in immediate contact with the femoral artery, and their section also endangered the cutting of the profunda and its branches. Great hæmorrhage followed the knife, but it was controlled immediately by compression. This operation let the thigh down completely, and relieved the drawing in the back, of which he complained before, whenever an attempt was made to extend the thigh. June 23d, removed all the dressings, and no bleeding; signs of large effusion; extensive lividity, etc., some vessication about parts compressed. June 26th and 27th, eschar forming below Poupart's ligament. June 30th, removed eschar and a portion of the large coagulum of blood; no hæmorrhage. Removed some daily till the whole came out, about a week after. About a week after the operation commenced extension of limb; kept the leg down and exercised it to prevent contraction. The leg, when extended, was now as long as the other. Could stand erect and walk easily in August. There still remained curvature of the spine and contraction of the abdominal muscles. But further division was out of the question. Supposing this might be acute contraction, and not permanent retraction, it was determined to try the effect of exercise of the muscles, and friction, with stimulating applications over the parts. The following pomade was used:

Ext. Bellad.	℥ iij.
Tart. Ant.	℥ i
Tr. Opii.	q. s. to form an ointment.

"This was applied perseveringly till the 24th of August, when the boy left, and went to Hadley. A fortnight ago heard from his father, that he continued to make great improvement."

Dr. Buckminster Brown has been kind enough to write for me the following outline of the history of orthopedic surgery in New England, which I quote in full:

"The history of orthopedic surgery in New England commenced in 1838, when Dr. John Ball Brown, of Boston, treated nine cases of spinal disease and curvature. Dr. Brown was for several years associate surgeon with Dr. John C. Warren, and afterwards consulting surgeon at the Massachusetts General Hospital. For some years previous to the above date he had given much attention to this class of complaints. In 1839 Dr. Brown received from Paris a copy of a publication of M. Bouvier, in which he describes the operation for the section of tendons in club foot de-

[2] As I am unable to find the records of Dr. Sargent's important case, Dr. Gage, of Worcester, has furnished me with the above copy of the transaction.

vised by Delpech, together with the introduction by Stromeyer of subcutaneous tenotomy, his own (M. Bouvier's) modification of this method. He also received at the same time the apparatus employed in the after-treatment. Dr. Brown at once decided to perform this operation, and to pursue the method of treatment described.

"On February 21, 1839, he did the operation on a little girl four or five years of age, who had talipes varus. The treatment was successful. So far as was known to Dr. Brown, this was the first time that subcutaneous tenotomy had been done in America. He afterwards learned it had been done once previously by Dr. Detmold, of New York. Dr. W. J. Little, of London, about this time published his first work on 'Club Foot and Analogous Distortions,' and this was a great assistance to the American pioneer.

"The various French treatises on this and kindred subjects by Guerin, Bouvier, Chassaignac and others were also welcome aid during the earlier years. He imported from Europe various instruments and drawings of apparatus, invented many and modified others.

"From the date above named, Dr. Brown had an extensive experience in this branch of surgery, and his reputation spread widely; patients, not only from the neighboring States, but from the South and from the West, and even from the Sandwich Islands, journeyed to Boston for the purpose of being placed under his care. In 1849 he opened, in a house hired for the purpose, a small hospital for the treatment of orthopedic cases. Dr. Brown continued in the practice of orthopedic surgery until his death, which occurred in 1862.

"Dr. Brown's treatment of talipes was essentially modelled on that of Little and Bouvier. In lateral curvature he adopted, to a certain extent, the course pursued by Jules Guerin, with modifications and improvements of his own; and in spinal caries fixation was the point aimed at.

"In 1846 Dr. Buckminster Brown returned from Europe, where he had followed the practice of Little, Stromeyer, Guerin and others. He immediately commenced practice in his profession, at first combining the orthopedic branch with general practice, and finally confining himself to the former. From this date to the present, he has from time to time published some of the results obtained from his practice and experience.

"In 1861 Dr. Buckminster Brown took charge of a ward in the Samaritan Hospital, for treatment of deformities."

The Children's Hospital in Boston, opened in 1866, though not an orthopedic institution, necessarily demanded treatment for cases of this sort, and has developed in this direction to such an extent that its orthopedic clinic may be said to be one of its most prominent features.

The increase of interest in this branch of surgery is marked in a practical way by the foundation of special hospitals. On May 1, 1863, the Hospital for Ruptured and Crippled, of New York, was opened by Dr. Knight, and is now one of the largest hospitals of its kind in existence. In 1866, an Orthopedic Dispensary was opened in New York, by Dr. C. F. Taylor. In 1873 it was enlarged into a hospital. Dr. C. F. Taylor was appointed consulting physician, in 1868, to St. Luke's hospital; and in 1872, Dr. Shaffer was appointed visiting consulting surgeon there. The interest in the treatment of deformities by Dr. J. K. Mitchell, of Philadelphia, was active, and led to the establishment of an orthopedic hospital in that city.

The progress of American orthopedic surgery, however, gives evidences of the same influences which delayed its progress abroad; but it is clear that the decadence of interest was less marked, and that the renaissance noticeable now in many places in Europe, came much earlier in America. For this we are specially indebted to the efforts of a few unusual men; and though others have contributed to the result, the influence of a few men is most marked on the current of orthopedic surgery.

It is not intended to consider here the different claims in small matters of priority. It is not a study of dates, but of influential factors, which the true historian is interested in. Discussion has long since ceased in our recognition of the results accomplished; and all are agreed to pay respect to Dr. Henry G. Davis for the originality and courage of conviction he displayed at at ime when originality was needed. It is to his suggestion that we, as members of the Association, owe more than we realize in the treatment of hip disease, in the treatment of caries of the spine, in the elastic correction of deformities. It is hardly an exaggeration to say, that, before his time, the general treatment of hip disease in common surgical practice was the actual cautery or the seton, and we all know the results which we can gain by treatment which has grown from his suggestion. Whether we know it or not, we are all followers of the teachings of Dr. Davis.

It is difficult to do full justice to the great influence and excellence of the work of Dr. C. F. Taylor. The best tribute to him lies in his unpublished records of an unparalleled series of difficult successful cases, reaching in thoroughness of observation through many years after a time when others would have termed a cure established. Those who have witnessed his methods and results, can simply add their testimony to the remarkable energy, thoroughness of method, perfect adaptation of mechanical appliances to surgical indications, and a force of character enabling him to carry, through years of discouragement, difficult cases of caries of the spine, until ultimate and permanent cures were reached. The stamp of thoroughness has marked all his work. To him we especially owe practical improvements of great importance in the traction splint; the introduction of a perfected protection splint in the convalescent treatment of hip disease; more rational methods of the treatment of club-foot; of paralytic deformities; the thorough mechanical treatment of Pott's disease. But, more than this, we owe the fact of the introduction of a rational, thorough, practical method of treatment by mechanical means, of a class of affections needing such treatment. Without his teachings our specialty would not have attained the perfection in mechanism it has reached. He has shown clearly the need of a variation of appliances in each individual case, according to the variation of the indications, and he has shown us how to meet those indications.

It is scarcely necessary to mention the name of Dr. Sayre in connection with the subject of orthopedic surgery. His fame in this regard is world-wide. One achievement alone would be sufficient for his renown, the well-known plaster corset; but it is not for this, or for his able advocacy of excision, for which alone are due our special thanks, so much as to the one great fact of the influence he has exerted. It is to him

we owe the wide-spread interest which brings help to us from all over the country. Orthopedic surgery is no longer — thanks to the energy of Dr. Sayre, his brilliancy as a writer and teacher — a neglected branch of surgery. The surgeon no longer looks upon the treatment of orthopedic cases as a forlorn hope of despairing surgical duty, or as a matter to be relegated to the commercial instincts of the maker of trusses. The surgeon at present no more feels that his work has been fully done if he cuts the tendons of a club-foot, and sends his patient to an instrument-maker than would a physician treating typhoid fever, feel justified in recognizing the affection, and leaving the direction of the diet and nursing to the apothecary, with the sale of the drugs.

Dr. Sayre has not only promoted the cause of the treatment of deformities; he has broadened the field of general surgery.

One other name can be added to the list, for the painstaking, determined courage of his work, and especially for the unusual record of success won through his unparalleled persistence. The records of surgical annals can be searched in vain for a well-established cure of double congenital dislocation of the hip, until we come to the work of Dr. Buckminster Brown. Space does not permit a full mention of the names of the workers who have labored so successfully in the department of orthopedic surgery, — Marsh, of Albany; Bauer, the first lecturer on the subject in America; Prince; Andrews. It is not intended to consider here contemporaneous work, which will speak for itself.

Enough has been said to indicate that a great responsibility falls upon us in our attempt to carry on the work which we inherit, and to do full justice to the legacy which is bequeathed to us. The work in the successful treatment of the chronic cases of diseases of the hip and spine is no holiday task, is not a triumph of the amphitheatre. It demands the highest qualities of the practitioner, — tact; judgment; knowledge of human nature; patience; estimate of character; the ability to gain the confidence of a fretful, suffering, petted child; the skill of a diplomate; the force to control through years of discouragement the surrounding household, ruled by a petted invalid, often despotic as a Turk; a determined courage which can force success after years of paralysis and suppuration; the sympathy which should always be hearty, kindly and sincere, but which should never warp our judgment. All this we know is often demanded of us. We know how rarely we can, in full measure, meet the demand; but we also know how often complete success will meet thorough work.

The successful treatment of Pott's disease, or hip disease, may not be as brilliant as excision of cancer of the pylorus; but it is more than brilliant, it is satisfactory. And though orthopedic surgery to-day offers many opportunities for the exercise of that surgical sense, and the art of operative interference (which we would not be worthy of the name of surgeon did we not prize), yet we should remember always, as our predecessors have done, that our specialty must essentially remain conservative in the best sense of the word. It should seek to obtain results with the least sacrifice of tissue, the least impairment of function. We are bound by our calling not to maim; we must, of all surgeons, be the last to fall victims to the *delire operatoire*. But it is also incumbent on us to remember that our duty as surgeons compels us to obtain the best results in the speediest way compatible with safety to our patient, and that he certainly is unworthy — a surgical laggard — who trusts to the temporizing expectancy of a mechanical appliance, when an osteotomy, an arthrectomy, an excision are needed.

It is well for us, in endeavoring to promote the study of the proper treatment and nature of deformities and deforming joint affections, to remember that the fact of our membership of this Association, formed for this purpose, involves especial responsibilities from the fact that it is a pioneer organization, and that the progress of the special branch of surgery we are here interested in, will be materially advanced or delayed according as our work is well or badly performed. Our success stimulates the endeavor of others, and our failure will check subsequent attempts.

We can trust that, as Americans, we have to some degree that spirit which we are proud to call American, which, respecting tradition, looks also for individual experience as the best of traditions, the spirit which prompts us to attempt the impossible, unmindful of the ill-success of others, trusting to ourselves. But we should also remember that individualism has also its defects, and that organizations like this of ours are often wrecked, or degenerate into assemblages of dull mediocrities or organizations of medical politics, unless the spirit of self-advancement, and the relation of mere personal triumphs, natural in all men of achievement and ambition, is subordinated to the highest scientific purpose, which alone promotes the best work.

The opportunity offered us in advancing orthopedic surgery is certainly an unusual one. The work is in many respects new. New methods are demanded in many directions. Investigation is especially needed, as well as the careful collection of recorded facts and results. Further, in no branch of surgery can greater satisfaction be gained than crowns success when success is won in the treatment of cases of our specialty.

It has been said epigrammatically that the practice of medicine consists of writing prescriptions while Nature effects a cure. Even in surgery, often we can claim to ourselves but little credit. "J' ai pansé: Dieu à guari," as Ambrose Paré so truly said; but sometimes we are enabled to fairly take up arms against an erring Nature, by our own efforts to check the destruction of caries, correct the deformity, and cure the distortion, winning results *invito Apolline*. This is nowhere more true than in the department we devote ourselves to, and it is to the advancement of this study, that we meet here, it is to be hoped, with a purpose of laboring earnestly, zealously, persistently, to promote our branch of the "noble art of surgery."

— Mayor Grant, of New York, was recently waited on with the suggestion that a meeting of the New York Relief Committee for the Pennsylvania flood sufferers be called in order that Governor Beaver, of the Keystone State, be requested to take steps to establish a hospital at Johnstown and another at Williamsport — each to cost $75,000 — out of the $1,600,000 now in Governor Beaver's hands as a surplus of the relief fund. Mayor Grant declined to take any action on the proposition in advance of the meeting of the Relief Committee.

Original Articles.

ABSTRACT OF A REMARKABLE CASE OF SLOW PULSE, EXTENDING OVER A PERIOD OF NEARLY TWO YEARS.[1]

BY D. W. PRENTISS, M.D., WASHINGTON.

G. W. P., white, male, carpenter by trade, aged fifty-four years. Father died of cystitis (enlarged prostate?) at age of seventy-five years. Mother died of cancer at age of forty-five. Has himself always been healthy. Almost never lost time from his work on account of sickness. The only illness he remembers was neuralgia of the stomach, fourteen years ago. Has received no injuries, except a fall when nineteen years old (fell on his feet; distance fifteen feet; suffered no bad consequences); and ten years ago a piece of brick fell on his head, cutting the scalp, but causing no serious injury.

Never had any form of venereal disease. Has always been temperate as to use of alcoholic stimulants, but not so as to use of tobacco, smoking a pipe almost constantly when opportunity offered.

I have been his family physician for sixteen years. During this time was never called upon to attend him personally until the present illness began.

December 13, 1887, he had been building a house down in Maryland in a malarial locality, when he began to have "weak spells"; and finally, upon lifting heavy weights on several occasions, he fainted. Becoming alarmed, he returned home; and I was sent for.

At this time I could find no well-defined disease. He was weak and depressed; tongue clean; no fever; mind clear; pulse, 36. As far as I can learn, there had previously been nothing abnormal about his pulse, urine normal. Bowels constipated. Examination of the heart discovered no organic disease. The systole was full and strong; the diastole greatly prolonged. Between the dates of December 13, 1887, and January 20, 1888, the pulse ranged from 22 to 76. During this time he had frequent attacks of syncope. He had been ordered to stay in bed; but as he became better, he got up and started down stairs. Was seized with fainting attacks; during one of which he fell down stairs; during another, fell out of a chair, remaining unconscious about a minute.

After January 20, 1888, when pulse had risen to 76, he had no more fainting-spells, but continued to convalesce slowly; and in March was able to resume work. He was cautioned about over-exertion, and specially not to use tobacco; which last caution, however, was not observed. He continued to work at intervals during the summer, until October, 1888, when he had a relapse, coming on with the same symptoms as the previous attack. The clinical record from October 2, 1888, to April 15, 1889, is given in detail: during this period the pulse ranged from 15 to 44 per minute. The fainting attacks continued throughout this time, and were sometimes very severe.

By April 15, 1889, he had improved so that he could sit up and go round the house, and out for short walks. No attempt was made to work.

About August 1, 1889, began to have a return of the old symptoms. For a week had had frequent fainting-spells with partial unconsciousness and dyspnœa. Pulse down to 12 and 15 during spells. Once fell down stairs. Between dates of August 5th and September 18th, the pulse ranged from 12 to 38 per minute, and from August 10th to August 15th it did not rise above 14 per minute. The temperature during this time was sub-normal, between 94.5° and 97°.

He improved after August 15th so as to be able to sit up, and September 18th was well enough to present himself for examination before the meeting of the Association of American Physicians at the Army Medical Museum.

The "spells" referred to in the report of this case are described as follows: They come on suddenly without warning, often without apparent cause, sometimes following exertion. He faints, losing consciousness. He describes the sensation as one of utter helplessness as they attack him, and as he comes to himself when they pass off. They last from a few seconds to half an hour.

The breathing is gasping and slow as in dying, and consciousness returns with a long-drawn breath. Face and hands become first pale and then dark purplish. There is no pain, but great exhaustion. Says, himself, they are due to "stoppage of the heart." Has great confidence in the bromide of ammonium, which he thinks controls the attacks.

During the time his pulse was slowest, — from 12 to 16, — these spells were recurring almost constantly; and his wife described the condition as being "terrible." She worked over him faithfully with whiskey and camphor internally, mustard and rubbing externally, and nitrate of amyl by inhalation, but thought many times that he was dead — with the black face, gasping respiration and pulse that seemed at times to entirely stop. She had learned to count the pulse, and she was certain that during the spells it was often much slower than I have recorded.

The treatment of the case from the first has been rest in bed, tonics, stimulants, electricity and bromide of ammonium, together with supporting diet. The tonics used were strychnia, quinine and iron, with belladona, in the following prescription:

℞	Strychniæ	0.04
	Ext. bellad.	0.20
	Ferri pyrophos.	3.00
	Quin. hydrochlo.	3.00

In twenty capsules, one three times a day.

These capsules were taken nearly constantly while he was under observation. The stimulants used were whiskey, camphor and coffee. Digitalis was tried, but made him distinctly worse. Nitro-glycerine seemed to help for a few doses, but later caused distress. Convalaria and strophanthus were tried with a like result. The form of electricity employed was the Faradic current — one electrode over the heart, and the other at the back of the neck. It seemed to be of decided benefit.

The drug, however, which appeared to give most relief, was bromide of ammonium given in doses of one gramme (1.00) three times a day, and extra doses when paroxysms threatened. He appreciates the relief from this medicine so much that he is not satisfied to be without it.

The most interesting question in this case turns on its pathology. What is the cause of the retarded action of the heart? I can but believe that it is a condition of rare occurrence, although in looking up the literature of the subject, I have found a large number of cases reported under the title of "Slow

[1] Abstract of a paper read before the Association of American Physicians, Washington, D. C., September 19, 1889.

Pulse," some of which correspond in many particulars with the one here presented.

The causes which produce slow pulse may be classified as follows:

(1) Diseases or injuries to the nerve centres, producing either irritation of the pneumogastric or paralysis of the sympathetic (accelerator) nerves of the heart.

(2) Disease or injury of the pneumogastric nerve, increasing its irritability.

(3) Disease or injury of the sympathetic nerves of the heart, paralyzing them.

(4) Disease of the cardiac ganglia, by which the influence of the pneumogastric preponderates.

(5) Disease of the heart muscle (degeneration), whereby it fails to respond to the normal stimulus.

(6) Action of poisons, as of lead or tobacco, either on nerve endings or on nerve centres.

In one case reported, the slow pulse may have been due to a poison generated in salt fish. In another, it was due to the poison of algid pernicious fever.

In the present case, it is difficult to say, even at this late stage, to which of these divisions it belongs. There are no symptoms to indicate any form of disease of the nerve centres. There is no evidence of disease of the nerves themselves. Nor have we been able to discover any organic heart disease that might account for the symptoms. We have left, then, only the action of certain poisons; and the question presents itself, whether, in some obscure way, the conditions here present may not be due to tobacco poisoning from excessive smoking. This appears to be the most plausible explanation.

Another possibility is malarial poisoning. When the attack came on, he was working in a very malarial district; and in the summer of 1888, he had intermittent fever, which was relieved by quinine. These considerations make it probable that we have a paralysis of the accelerator nerves, and not an irritation of the vagus.

The symptoms presented in the case are those due solely to defective circulation. The syncope attacks were the result of insufficient blood-supply in the brain, and, if long continued, must result in serious alterations of the nerve centres, as well as of other organs, more particularly of the heart itself, by interfering with its nutrition.

In many of the cases collected in connection with this report, the pathological appearances were a *result* of the slow pulse rather than a cause.

In looking up the literature, it was found more extensive than anticipated. Abstracts are given of fifty-five cases of slow pulse, of which the following is a brief analysis as to causes:

	Cases.
1. Fracture or dislocation of the cervical vertebræ	9
2. Diseases of brain	9
3. Cerebral syphilis	2
4. Sunstroke	1
5. Ossification of aortic valves and coronary arteries	2
6. Starvation, exhaustion, loss of rest, convalescence	3
7. Epilepsy and epileptoid disease	9
8. Heart disease	6
9. Lead poisoning, poisoning by salt fish, pernicious fever	3
10. Nervous shock, cholera morbus	2
11. Not stated	9

— The regents of the new hospital at Ann Arbor, Mich., have received an offer of ten acres of land for a hospital site, from Mrs. Israel Hall.

ANALYSIS OF ONE HUNDRED AND EIGHT CASES OF TYPHOID FEVER.[1]

BY J. N. HALL, M.D. (HARVARD), STERLING, COLORADO.

THESE comprise all that the writer has seen in six years, in private practice. During much of the time he was without professional neighbors, and hence saw all the cases occurring near him. It seems, therefore, that this series should present an especially fair average of the disease as it occurs on the Plains. The cases were partly in town and partly in country practice.

Of five years of age or under there were five cases.
Of five to ten years, fifteen cases.
Of ten to twenty years, thirty-two cases.
Of twenty to thirty years, thirty-eight cases.
Of thirty to forty years, fifteen cases.
Over forty years, three cases.

The oldest was fifty-five years of age; the youngest three years. These cases were equally divided between the sexes, fifty-four being male, fifty-four female. The total mortality, eight cases, gives a percentage of 7.4+. Of the ninety-three cases cared for by the writer alone, five died, a percentage of 5.37+. Of six cases under care of irregular practitioners during part of the sickness, two died, or 33+%. Nine were seen in the temporary absence of other physicians, or in consultation. These were necessarily grave cases, and one died, or 11+%. The two cases fatal under irregular care apparently would have recovered with any reasonable treatment, as in each case, as we shall see later, death occurred from an avoidable cause.

The mortality of 7.4+% would go to substantiate the position assumed by the writer, that the disease is considerably milder on the Plains than in other parts of the country, notably the eastern and middle parts of the United States. Statistics from Murchison's tables and from various hospitals, give a general average of about 18%, which, it seems, is ordinarily accepted as a fair statement of the mortality. So small a number of cases, is, however, manifestly more liable to error than larger ones are. Of the eight deaths, five were of males, three of females. Occurring in one household, there were in two instances, six cases of the disease; in two instances, three cases; in six instances, two cases. No instance of recurrence is noted, which would go to prove what is often not plainly set forth, that one attack seems to be often protective against others in future.

In regard to the ordinary signs: Rose-spots are noted in fifty-four cases, two of which were fatal. They were generally distributed over the body in two cases. In fifty-two cases they were not noted, four of these being fatal. They undoubtedly might have been found in many of these fifty-two cases if examined for at other times.

There were six cases of intestinal hæmorrhage, three fatal, three recovering. In one of the fatal cases hæmorrhages recurred almost daily for three weeks, accompanied by most extreme emaciation.

Affections of the lungs sufficiently serious to be called complications occurred in eleven cases, four of these being fatal. Two of the latter were cases of pneumonia. One case with hæmoptysis recovered. The others had the ordinary pulmonary congestion seen in severe cases of fever.

One woman was confined at term, without any seri-

[1] An abstract of a paper read before the Colorado State Medical Society, at its annual meeting, Denver, June 19, 1889.

ous symptoms, her temperature on the days preceding and following labor running from 103° to 104.5°. One woman, four months advanced, carried the child through in safety. One fatal case developed in the second week after a normal labor.

Five cases relapsed, one proving fatal. Three fatal cases had bed-sores, one accompanied with an abscess in the groin.

Of epistaxis and hæmoptysis there were each one case, with recovery. Three cases of lymphangitis of the leg occurred, two being on the left side, one on the right; one of the former was fatal. Two cases of indigestion, as a sequel retarding convalescence, were noted.

Three cases, two boys and one woman, exhibited severe mental symptoms, possibly such as have, at times, given rise to the term, "meningeal typhoid"; all recovered. One case of balanitis was noted.

In one woman organic heart disease caused death several weeks after the subsidence of the fever, the course of the disease having been modified by pneumonia and rheumatic fever. This case is not included in the fatal cases, as she died long after all symptoms relating to the fever had disappeared.

The tissues in the neighborhood of the sublingual parotid gland inflamed and sloughed in a strumous girl of eight years. The destruction extended over the whole anterior part of the cheek, causing death from hæmorrhage.

Unfortunately no complete record of the presence or absence of diarrhœa was kept. The writer's impression is, that at least one-half of the cases were constipated. Diarrhœa occurred in five of the fatal cases.

In the treatment of this disease in hospital cases, the writer was led to think that the use of antipyretics, other than the sponge-bath, influenced the patients toward recovery little, if at all.

As to the lowering of the temperature, there was of course, no room for doubt. As a result of this experience, no one of these cases received any treatment directed toward the high temperature, other than the sponge-bath. It is to be noted, however, that these cases were, as a rule, mild, as evidenced by the very low mortality. In other localities, an opposite conclusion might be arrived at, of course. The objections which the writer has found against the drugs popularly used in the disease to control the temperature, are as follows: They disturb the stomach in many cases; some of them disturb the nervous system seriously; at times they cause dangerous collapse. None of them have seemed to the writer to hasten the recovery of the patient, however much they might lower the temperature.

In a general way the treatment has been expectant. The patients have nearly all received some dilute mineral acid, generally hydrochloric. Diarrhœa, cough, hæmorrhage and other symptoms, have been treated as they arose, and alcoholics used as indicated; especial attention was given to the feeding and nursing. Many of the patients have been cared for without skilled assistance in nursing. Hence the thermometer was not constantly used as a guide in giving the sponge-baths. In a general way it was ordered that these should be given whenever the skin became hot and dry. In many cases this required that they be given very frequently, of course. The writer believes that in no one fatal case could the fatal result be attributed directly to the high temperature.

Of the eight deaths: one was from intestinal hæmorrhage; one from hæmorrhage from face; one from pleuro-pneumonia, the patient drinking during convalescence, after being cautioned in the matter, two quarts of ice-cold milk at once, and dying in about three hours from heart-failure; one from exhaustion accompanying a lymphangitis of the leg; one from lack of attention to nursing, under care of an irregular practitioner; one from the too liberal use of a narcotic drug administered by an irregular physician; one from hæmorrhage and exhaustion, after the giving of a dose of Epsom salts, against the directions of the physician; the eighth death supervened upon child-bed, from diarrhœa and exhaustion.

The full baths advocated by Jürgensen, Liebermeister and others, seemed entirely uncalled for in these cases.

With regard to the influence of dry seasons upon the disease, it is interesting to note that, in 1887 and 1888, which were the dryest of the years included, the disease was very prevalent. Although more than one case was found in the same household frequently, the doctrine of contagion seemed to receive no support therefrom.

Reports of Societies.

ASSOCIATION OF AMERICAN PHYSICIANS.

FOURTH Annual Meeting, held in the Army Medical Museum and Library, Washington, D. C., September 18, 19, and 20, 1889.

WEDNESDAY, 18TH. — MORNING SESSION.

The Association was called to order at 10 A. M. by the President, DR. FRANCIS MINOT, of Boston.

The first business was the reading of the President's Address, which dealt with

THE PROGRESS OF MEDICINE DURING THE LAST FIFTY YEARS.[1]

The PRESIDENT reported the deaths of the following members: Drs. H. D. Schmidt, New Orleans; John C. Dalton, New York (honorary member); Robert Palmer Howard, Montreal; and Edward T. Bruen, Philadelphia.

THE EARLY STAGE OF GENERAL PARALYSIS,[2]

by DR. C. F. FOLSOM, Boston.

The author first reported a number of cases illustrating the early stage of the disease, in which the motor disturbances were very slight, and might readily be overlooked and escape detection. The striking loss of muscular control or power, generally considered a part of the disease, was not found until a late period of the disease. The mental symptoms consist in impairment of a peculiar quality, often so slight as to be made out with difficulty.

The disease arises most commonly under prolonged strain, particularly when associated with unaccustomed excesses. At least two-thirds of the general paralytics have had syphilis. The relation of the disease with syphilis is too frequent to be accidental. The disease is, however, not a stage of syphilis, and is not benefited by specific treatment. The prognosis is probably not so hopeless as it is generally considered to be.

[1] See page 269 of the Journal.
[2] This paper will be published in full in the Journal.

The common early treatment is harmful. Foreign travel is injurious. The only hope of at least partial cure or marked amelioration is in entire mental and physical rest.

DISCUSSION.

DR. ROBERT T. EDES, Washington, reported the case of a man suffering now from pronounced general paralysis, in whom the first symptoms of the disease made their appearance some twenty years ago. If the anatomical view of general paralysis is accepted, he did not consider it strange that mental symptoms might precede the motor, depending upon the seat of the lesions.

DR. S. WEIR MITCHELL, Philadelphia, was sure that certain cases of general paralysis began most markedly with motor trouble, while others began most decisively with mental conditions. In regard to syphilis he agreed with the author, except that he had seen cases due to syphilitic disease in which cure followed specific treatment. He had also seen cure follow in a small number of cases where the treatment was begun in the early stages, but where the motor disturbance and the mental incapacity were sufficiently marked to render the diagnosis reasonably certain. In all of these cases there had been a total abandonment of all previous pursuits with absolute mental and physical rest. He agreed with the author that foreign travel was often injurious.

DR. JAMES J. PUTNAM, Boston, remarked that the fact that syphilis acts in this disease, not by producing a direct lesion, but in an indirect manner, justified us in looking for other causes of degeneration which might act in a similar manner. He asked if the reader had seen any cases in which chronic lead poisoning was the apparent cause of the general paralysis, and related a case in which the imperfect and slow speech, the imperfect handwriting, and the expression of apathy and indifference, suggested a diagnosis of general paralysis. In this case there was, however, a history of drinking-water contaminated with lead, and there were certain local symptoms indicating lead-poisoning.

DR. WM. PEPPER, Philadelphia, believed that he saw these cases from a different stand-point than that of Dr. Folsom. They come to him as cases of dyspepsia, lithæmic disturbance, and the like, and are under his care for some time before symptoms leading to recognition are developed, — sometimes for years before the paretic symptoms appear. He could not regard syphilis as in any way essential in the causation of general paralysis.

In regard to the early stage of the disease, there was not one symptom mentioned by Dr. Folsom or described by others as indicating the early stage, which he did not often find in cases of nervous lithæmia. There may be a grouping of these symptoms, or a delicacy on the part of the diagnostician which will enable a finer and finer shade of these differences to be recognized, which does constitute a basis of diagnosis.

He thought that general paralysis could be initiated by many disturbing, depressing or irritating causes, and that, in its early stages and slight degrees, it was capable not rarely of being entirely cured. If these cases are permitted to go on, with neglect of hygeine, and with excesses (sexual, alcoholic or business), a notable proportion will end with symptoms of general paralysis.

DR. C. F. FOLSOM, Boston, said, in regard to lead, that while he had seen cases in which this agent had produced symptoms similar to the initial symptoms of general paralysis, he had not seen a case in which the terminal symptoms of general paralysis had been produced. As illustrating apparent cure after specific treatment, he referred to a case in which the use of large doses of iodide of potassium apparently produced complete recovery, and the patient returned to his previous business. The symptoms, after several months reappeared, and have continued to steadily progress. Whether this is the result in all such cases, he was unable to say.

TETANY,

by DR. JAMES STEWART.

The details of the following case were referred to:

The patient, a male, aged forty, has been troubled during the past eight years with regularly recurring attacks of tetany. He served as a soldier during the American civil war. Suffered at that time and subsequently from chronic dysentery and malarial attacks. For upwards of ten years he has been troubled with diarrhœa. Patient is tall, emaciated and anæmic. The first subjective symptom of his tetany is usually double vision, which is quickly followed by the characteristic contractions of the flexor muscles of the hands. Occasionally the flexors of the fore-arms and the adductors of the arms become spastic, muscles of the face almost constantly suffer, muscles of the lower extremities rarely.

The affected muscles are the seat during the attacks of fibrillary twitching. The attacks often last several days (seven to twelve), unless terminated by the very free use of morphia.

The galvanic irritability of the nerves is found to be greatly increased, also the mechanical irritability of both nerve and muscle. Knee-jerks exaggerated during attack, absent in intervals. Œdema of the hands and arms, with herpetic eruptions frequently to be seen after particularly severe attacks. The quantity of urine excreted during attacks is usually normal in amount, and contains urea and indican in great excess. Patient has been under observation for more than three years, and it has been noticed during the past two years that he has been getting gradually dull and apathetic. It takes him a long time to answer questions, he complains of general numbness, his face and lips are swollen; symptoms closely resembling those seen in myxœdema.

Tetany may be divided into three varieties: —

(1) Epidemic or "rheumatic" tetany, common in Europe, but rare in America. This course is acute and favorable.

(2) Tetany from exhausting causes, as lactation, diarrhœa, etc. Course is chronic and favorable.

(3) Tetany from removal of the thyroid glands. Course generally is usually either quickly fatal or chronic and incurable.

(4) A form of tetany occurring in cases of dilatation of the stomach. Very fatal.

Infantile tetany is excluded from above division, as what is so frequently called tetany in infants is not that disease. No doubt, true tetany may occur in childhood.

Experimental Tetany. — When the thyroid gland is removed from cats, dogs or monkeys, a condition very similar to the typical tetany of the human subject is

observed, namely, fibrillary tremors and intermittent spasmodic contractions. Death usually follows in a week, and no changes can be found to adequately account for it.

The fact that there is a great increase in the electric irritability of the nerves after the removal of the thyroid glands is strong evidence of the similarity of the tetany of man and animals. Of the many forms of muscular contractions seen in man, in none, with perhaps the exception of cholera, do we find any marked increase of the electric irritability of the nerves and muscles.

Morbid Anatomy. — No changes that in any way can be considered characteristic have been described.

Nature of. — All recent observers tend to confirm the conclusion of Schiff that the tetany following removal of the thyroid gland is directly due to the loss of the gland, and that the thyroid gland in some way has a direct influence over the nutrition of the nervous system.

It is difficult to explain how causes so diverse in their operation, as "rheumatic" influences, diarrhœa, pregnancy, lactation and removal of the thyroid, can induce similar symptoms.

It appears probable that impoverishment of the nerve centres is one of the main factors in its production.

TETANY AND A NEW THEORY OF ITS PATHOLOGY,

by Dr. John T. Carpenter, Pottsville, Pa.

The author defined tetany as a nervous disorder accompanied by tetanic spasms of an intermittent character, which may extend from the extremities to the muscles of the jaw, and is reproduced during the periods of intermission at will by pressure on the track of the affected nerve trunk or over the blood vessels obstructing the circulation.

An historical review of the disease was given. Tetany was regarded, not as a special disease, but as a sequel of precedent phenomena only. The affection was regarded as the result of septic absorption. The diminution of cases of tetany coincident with the successful treatment and the prevention of septic poisoning was regarded as an argument in favor of the connection between septicæmia and tetany. Cases illustrating this view were cited. The views previously held in regard to the pathology of tetany were discussed and considered untenable.

DISCUSSION.

Dr. Francis P. Kinnicutt, New York: I have seen but two cases of intermittent tetany, both occurring in patients with dilatation of the stomach. In one the dilatation was due to pyloric stricture resulting from cancer. In the other there was non-malignant stricture. In both of these cases the conditions were favorable to absorption of poisonous matter.

Dr. F. T. Miles, Baltimore, reported the case of a young woman aged twenty-two years. She had suffered from six to eight years from dilatation of the stomach. She had vomited acid matters but never offensive. She had several times had numbness of fingers and toes. She suffered her first attack of tetany twenty-four hours before her death. In this case the stomach had never been washed out.

Dr. A. Jacobi, New York, had been struck with the stress laid by the readers upon sepsis as the cause of tetany. In one of the cases reported by Dr. Stewart, which he thought was due to the absorption of putrid material, the stomach was twisted; and Dr. Jacobi suggested that the intermittent contracture was due to nervous influence resulting from the twisting rather than to absorption. He did not doubt that there were cases in which septic absorption produced such symptoms; but when we recall the fact that the contracture is temporary, we must conclude that the influences giving rise to that attack were also temporary. Many of these cases are, I think, the result of nervous irritation. In some of these cases reported I should attribute the condition to anæmia.

Dr. James J. Putnam, of Boston, remarked that the reported cases of tetany showed such a variety of infectious sources, that it seemed hardly probable that they should act in such a similar manner unless there were something else behind. Two or three things are to be considered. First, the influence of habit. The disease set up by a variety of causes may continue as a result of habit. Second, the suggestion that in such cases of disordered action we have to deal with an over-sensitiveness of physiological arrangement is important. In these conditions we have the disordered manifestation of what is really a function, but one which we ordinarily recognize, as it has no independent existence. It would seem that, in the absence of further knowledge with regard to infection and the manner in which this infection arising from various sources may act, we should insist upon the possibilities of explanation which are presented to us by what we know of the physiology and disordered physiology of the nervous system, in attempting to explain conditions met with in this and similar diseases.

Dr. James Stewart, Montreal, said, in connection with the influence of peripheral irritation, that in the cases of dilatation of the stomach where tetany had caused death, the symptoms came on a few hours after the stomach had been washed out. This would point to irritation rather than decomposition as the active cause in this class of cases. There are many other cases where infection could not enter.

Dr. John T. Carpenter, Pottsville, said, in regard to anæmia as the cause of tetany, that we should have to go back of the anæmia to the cause that produced it. He knew of no cause that would produce anæmia so surely as septic absorption.

AFTERNOON SESSION.

THROMBOSIS OF CEREBRAL SINUSES AND VEINS,

by Dr. A. B. Ball, New York.

The author first referred to the influence of the following factors in the production of thrombosis: —(1) blood stasis; (2) vessel lesion; (3) blood changes. The anatomical conditions in the sinuses that favor thrombosis were described at length. A number of cases of marantic thrombosis of cerebral veins and sinuses in chlorotic girls were given.

The symptoms were next considered. Much importance has been attached to distension of external veins collateral to the internal veins supposed to be affected, giving rise to hæmorrhages and œdema. These signs are frequently absent, and may be due to other conditions. The mobility of the symptoms have been considered of value. In these cases the cerebral symptoms undergo strange alterations not seen usually in other affections. Active delirium is exceptional. The depression continues, but alternates with a certain amount of improvement. Fever is absent at first,

and, if present, is to be attributed to complicating conditions. Paralytic symptoms of varying extent are usually present. With the exception of the variation in degrees, the paralysis does not differ from paralysis from other causes.

DISCUSSION.

DR. WILLIAM OSLER, Baltimore, exhibited two specimens illustrating the conditions described by Dr. Ball. The first specimen was one of extensive thrombosis of the lateral sinus occurring in a man who died from phlegmonous erysipelas of the cheek. There were no special symptoms in that case.

The second specimen was from a woman dying of consumption. It was thought that gradually increasing coma and the onset of cerebral symptoms were supposed to be due to the basilar meningitis.

DR. A. JACOBI, New York, enumerated certain additional aiding causes. The first was a disproportion between the white and red blood corpuscles. The second cause was the relative absence of muscular tissue in a number of the veins. A third cause was absence of water in the blood, often due to the withholding of sufficient fluid in the diet of patients. The last cause referred to was weakness of the heart. When in exhaustive diseases, the heart is allowed to become feeble, thrombosis with all its bad results must be expected. It is certainly a good therapeutic measure to stimulate and strengthen the heart in every disease that will last long or tends to terminate in exhaustion.

DR. WILLIAM H. WELCH, Baltimore, said: There is one point of great force in explaining the production of thrombosis, that is the possibility that there is some form of intoxication analogous to that produced experimentally by various substances, such as the fibrin ferment. Under such circumstances there is almost instantaneously thrombosis wherever the ferment reaches. Pathologists are aware of the frequency with which thrombi, usually of a mixed character, are found in the cerebral sinuses, particularly the superior longitudinal, in cases that have presented no symptom during life.

THE EFFUSION OF CHYLE AND OF CHYLE-LIKE, MILKY, FATTY FLUIDS INTO SEROUS CAVITIES,

by DR. SAMUEL C. BUSEY, of Washington, D. C.

The object of the paper was to present the subject of effusion of chyle, chyle-like and fatty fluids into serous cavities. It was limited to the effusion of such fluids into the cavities of the pleuræ, peritoneum and tunica vaginalis. The subject of traumatic injuries of the absorbent vessels seems to have been peculiarly attractive to many of the older writers; Ruysch, as early as 1665, drew attention to wounds of the lymphatic vessels. The reported cases of effusion of chyle and milk-like fluids into the pleural and peritoneal cavities, including the doubtful cases, do not exceed forty-three; and these cases cover a period of one hundred and ninety years. Nevertheless, twenty-three of the cases of effusion of chyle and chyle-like fluid into the abdominal cavity have been observed during the present century, fifteen since 1850, and thirteen during the last and present decades. The increasing frequency of the occurrence is thus clearly shown.

Effusion into the Pleural Cavities: Chyle-Thorax. — Of this, including the doubtful cases, there have been ten cases reported. In five of these the chyle poured directly from the thoracic duct. The diagnosis in these cases can only be made by evacuation and examination of the fluid. The prominent symptoms are dyspnœa and accumulation of fluid in one or both cavities. The prognosis is improvable, and the treatment expectant.

Effusion into the Tunica Vaginalis Testis. — The case of galactocele reported by Vidal (de Cassis) seems to have been the first observation of this class of effusions. In two of the reported cases the patulous orifices of the vessels from which the lymph exuded were found. Since 1885 there have been reported in this country thirteen cases in which filaria were found; and two of these were cases of lymphocele. It has not been shown, however, that filaria are present in every case of lymphocele. It is conceivable that adenitis, gonorrhœal lymphangitis or other conditions which obliterate the permeability of neighboring and connecting glands might cause stasis of lymph and dilatation and rupture of lymph capillaries and plexuses with which the serous membranes are so richly supplied. The opinion of those who have had the best opportunity to study the relation of filaria to disease in general, seems to be that of Sir Joseph Fayre's, that "it has been shown that disorders of the lymphatic system are most frequently associated with, if not caused by, the filaria." The recent invasion of portions of the sub-tropical belt of this country by the filaria, and the reports of cases of disease with which the parasite has been so uniformly associated, together with the fact that the mosquito has been proven to be its intermediate host, present considerations of the highest importance to the profession and general public. Some of the cases have been cured by injection of iodine, others have been cured by dissecting back the vessels, and tying the bundle *en masse* with a silk ligature.

Chylous and Oily Ascites. — A tabulated statement, arranged chronologically, presenting a condensed summary of the reports of cases of chylous and oily ascites was given. The number of cases reported were thirty-three. Primary rupture occurred in but five cases. Chylous ascites may be the secondary result of a variety of morbid conditions which directly or remotely obstruct the flow of the chyle through the lacteals, receptaculum or thoracic duct, impede its exit into the left subclavian vein or retard the current of blood in the left subclavian vein, right side of the heart or lessen circulation. The relation of puerperal conditions to the effusion of chyle are not susceptible of explanation. In five cases the fluid found in the peritoneal cavity was associated with tuberculosis, and in four it is stated that the peritoneum was more or less studded with tubercles. No perforation or rupture of chyle-conveying vessels was found in any of these cases.

The symptomatology of effusion of chyle into the peritoneal cavity is not sufficiently distinctive to differentiate such cases from ordinary ascites, and a diagnosis is only possible after examination of the evacuated fluid. Of the thirty-three cases, nineteen died, nine recovered, and in five the result is not stated. Of the twenty-two cases of chylous ascites proper, twelve died, five recovered, and in five the result is not stated. Meagre and unsatisfactory as are the clinical details of these cases, they point to two conclusions: (1) that a free and obstructed channel of communication between the venous system and the chyle-conveying

vessels is essential to the proper nutrition of the body and preservation of life; and (2) that death following the partial or complete obliteration of this communication is the result of inanition.

In seventeen of the thirty-three tabulated cases, tapping was practised, and in most of the cases repeated several times. Six of these recovered. In two, laparotomy was resorted to with recovery of both patients. One was a case of intact retention cyst, and the other was probably a ruptured cyst. As a medical resource, paracentesis is of questionable value. The treatment is mainly directed to the prolongation of life. The causative condition may in some cases be amenable to medicinal treatment, but in most cases some surgical procedure might offer a prospect of cure. In filarial cases, the treatment applicable to such would be admissible. Sonsina thinks that astringents such as gallic acid and tincture of the chloride of iron with rest, tonics and proper alimentation are useful. Lancereaux thinks that the parasitic forms of lymphatic disease are curable. He has found mercurial inunction in the region of the affected gland, in connection with hydropathy, of service. He suggests the injection of parasiticides into the affected glands for the purpose of destroying the female adult worm.

DISCUSSION.

DR. WM. OSLER, Baltimore, said that in ordinary post-mortem work it was not unfrequent to meet with varices of the chyle vessels of the mesentery covering the walls of the intestine. Sometimes there are extravasations which may form large chylous cysts.

With reference to chyluria he was positive that there was a non-parasitic form. He had made thorough examinations in one such case and failed to find filaria. On post-mortem examination nothing was discovered. Also in a case of lymph scrotum, he had examined the fluid and the blood, and had found no embryos. He laid a great deal of stress upon these cases, as it is generally stated that these conditions are always parasitic.

DR. WM. H. WELCH, Baltimore, exhibited a specimen of chyle removed from the abdominal cavity of a boy twelve years of age. He described the chemical and microscopical characters of the fluid, and dwelt upon the importance of distinguishing between chylous and fatty hydrops.

SUBSTITUTES FOR OPIUM IN CHRONIC DISEASES,[3]

by DR. J. F. A. ADAMS, of Pittsfield, Mass.

The disadvantages attending the use of opium are: (1) in an overdose, it is a poison; (2) in ordinary doses, its benefits are largely offset by various functional derangements; (3) its use involves the danger of the opium habit. Other remedies may be substituted for opium for the relief of pain. The antipyretics, antipyrine, acetanilide, phenacetine and exalgine have well-grounded claims to be regarded as rivals of opium. They are, however, less certain, and less prompt, particularly where pain is very violent. Antipyrine in five to ten grain doses, had been found valuable as an analgesic, particularly in headache, neuralgia and rheumatism.

Acetanilide he had found less active than antipyrine. Used in doses of seven or eight grains, he had found it particularly serviceable in lumbago and dysmenorrhœa. In the latter condition one or two doses had afforded prompt relief. Salicylic acid and its sodium salt for the relief of pain in rheumatism, is to be included.

DISCUSSION.

DR. G. M. GARLAND, Boston, referred to the value of the fluid extract of gelseminum as a substitute for opium. In frontal headaches it has an admirable effect. It is used also with advantage in difficult and painful menstruation, and certain forms of neuralgia. As a simple hypnotic, gelseminum answers well in cases of temporary congestion with insomnia and headache. In hysterical conditions, this agent will often induce sleep in a short time. The drug is given in doses of five to ten drops every half-hour until the desired effect is obtained, or its physiological effect is produced in diplopia and ptosis. These appear sufficiently early to serve as a warning.

DR. ISRAEL T. DANA, of Portland, reported two cases of opium habit occurring in a man and wife. The husband was a young man who had for some time given hypodermic injections of morphia to a patient dying of cancer. He subsequently broke his leg, and remembering the effect of the injections in the case of cancer, he tried them on himself. The result was so exhilarating that he "could not see why his wife should not have a little of the fun," and he began giving her the injections, although she was perfectly healthy. In this way the habit was induced, and when admitted to the hospital, each one was taking six grains of morphia daily.

DR. M. G. DADIMAN, who had practised in Asia Minor and Constantinople, stated that he had never seen a case of opium habit in his practice in these places.

REMARKABLE CASE OF SLOW PULSE,[4]

by DR. D. W. PRENTISS, Washington.

THURSDAY, 19TH. — MORNING SESSION.

RELATION BETWEEN CHLOROSIS, SIMPLE ANÆMIA, AND PERNICIOUS ANÆMIA,

by DR. FREDERICK P. HENRY, Philadelphia.

The discussion of the relation between chlorosis, anæmia, pernicious anæmia, etc., may be divided into three heads: —

(1) Are they separate diseases?
(2) Are they of kindred nature?
(3) Are they different stages of one affection?

Pernicious anæmia is first considered, because the determination of its status is of fundamental importance. It is admitted by all that the clinical features of this disease are common to a number of affections, especially cancer and atrophy of gastric glands; but those who argue most forcibly in favor of its independent nature exclude from the category of pernicious anæmia all cases in which an anatomical lesion of any organ is found. This appears to me unscientific, for an independent disease is one which rests upon a constant anatomical basis or is invariably produced by the same specific agent. Hunter has endeavored to establish pernicious anæmia as an independent disease by the demonstration of an excess of iron in the liver in cases of that affection. He regards this as the essential anatomical feature of pernicious anæmia. The work of Hunter is of great value, and certainly demonstrates the existence of an excessive hæmolysis in that disease. In my opinion, however, this exces-

[3] This paper will be published in full in the Journal.

[4] See page 303 of the Journal.

sive hæmolysis is a consequence of defective hæmogenesis, for certain facts show the red corpuscles of pernicious anæmia to be abnormally weak and perishable. Chlorosis is universally admitted to be due to defective hæmogenesis, and therefore I regard it and pernicious anæmia as closely related affections. Transitions from one affection to the other have also been observed by myself and others.

Conclusions. — (1) That pernicious anæmia is a process, not a disease; (2) that it is closely related to chlorosis; (3) that it may be the terminal stage of other diseases, and especially of cancer of the stomach and atrophy of the gastric glands.

Leucocythæmia and Hodgkins' disease, in that they are always associated with lesions of the blood-making organs — spleen, lymph-glands, bone-marrow, etc., — are independent diseases, or, rather, different stages of the same disease, for several cases are recorded in which an undoubted transition from one to the other has been observed.

THE RELATION OF ANÆMIA TO CHLOROSIS,

by DR. F. FORCHEIMER, Cincinnati.

The speaker first referred to the confusion which existed in regard to the definition of the two diseases. Immermann states that we are justified in stating that anæmia is that condition in which there is a diminution of red corpuscles as well as of the albumins of the plasma in the blood (hypalbuminosis). Strümpell considered that "the essential element in anæmia is therefore a diminution in the number of red corpuscles, or so-called oligocythæmia," and states further that "oligocythæmia is not invariably accompanied by a diminution in the amount of serum-albumin (by which he means plasma-hypalbuminosis)." Going on, it is found that anæmia or oligæmia vera really means a diminution of the whole quantity of the blood, and that this condition can be divided into hydræmia, oligocythæmia, oligæmia sicca and oligæmia hypalbuminosis. We have three representative definitions: the one, broad and general, including a diminution of any one or all of the constituents of the blood; a second in which hypalbuminosis and oligocythæmia are the principal if not the only factors; and a third, which makes oligocythæmia alone the characteristic feature. From a purely practical standpoint the latter seems the best.

The same confusion in regard to definition is met with in a consideration of chlorosis. Duncan (1867) was, however, probably the first to make the distinctive feature, oligochromæmia characteristic for chlorosis, that is, in chlorosis we find the individual red corpuscles deficient in hæmoglobin. Unfortunately for this definition, the term chlorosis is to be looked upon as an essentially clinical one; it is not going too far to state that by far the great majority of reported cases of chlorosis are not chlorosis at all. Another difficulty is that both oligocythæmia and oligochromæmia may occur in the same individual, so that the term chloranæmia is justified by observation of existing conditions. It is more than probable that anæmia is a forerunner of chlorosis in a great many instances; and possibly a number of cases occur in which there is a combination of both conditions.

Almost any cause put down for anæmia will hold good for chlorosis. Sex, age, a peculiar composition of the blood, and certain vascular anomalies are held to be especially characteristic of chlorosis. The two latter are the only ones to be found in chlorosis. The process of sexual development is looked to as the time of most common occurrence of chlorosis. This age also produces a great number of cases of anæmia; but children and old people are subject to anæmia, and practically excluded from chlorosis. The greatest number of cases occurs between the ages of fifteen and twenty-five years, decidedly after the time of first menstruation. Furthermore, an anæmic constitution is a strong predisposing cause for chlorosis.

The clinical characteristic of chlorosis lies in the peculiar changes in the blood. In anæmia, the red corpuscles, as well as the albumin of the plasma, are reduced in quantity, and frequently there is production of a greater number of smaller corpuscles (microcytes). As a result of the reduction of the number of red corpuscles, the Hb. is correspondingly reduced in quantity. In pure chlorosis the number of red corpuscles is not diminished, and a tendency to the production of larger red corpuscles (megalocytes) is especially well marked. These changes are, however, not sufficiently characteristic to establish a diagnosis. It is, also, found that the amount of Hb. in each corpuscle is diminished. It has been said that in anæmia there is always hypalbuminosis, while in chlorosis this is absent; but this has not yet been positively proved.

One respect in which chlorosis is said to differ materially, if not absolutely, from anæmia, consists in the pathological changes, first described by Virchow. These are narrowing of the lumen of the aorta and larger arteries, as well as thinning of their walls. The heart is sometimes small, sometimes hypertrophied. This view would permit us to state that chlorosis is always congenital, in some cases latent for years, while anæmia in most cases is acquired. Many objections have been urged against this view.

The relation of the symptoms of anæmia to chlorosis depends upon the conditions of the blood and the anatomical sub-strata. Given a case of anæmia in which there is only a reduction of Hb. as a result of oligocythæmia, and a case of chlorosis, in which there is a reduction of Hb. as a result of oligochromæmia, and metabolism in both these cases will be approximately the same; but if in anæmia we have oligocythæmia as well as hypalbuminosis, which is said to co-exist in the majority of cases, the metabolism must be different from that of a pure case of oligocythæmia. As a result of reduction of Hb. there is simply reduction in the process of oxidation; at the same time the waste products are carried off, and sufficient albuminous food is carried to the tissues by the plasma of the blood, which is unchanged. Hypalbuminosis and oligocythæmia produce an entirely different result. We have the same factor, suboxidation; but we have, in addition, deficiency of supply. In mild cases of anæmia there is produced a loss of weight; in severe cases the condition called marasmus. In chlorosis very little if any loss of weight occurs; very frequently the opposite condition is brought about by too great supply, and by the presence of too much CO_2 preventing decomposition of fats. When anæmia is associated with chlorosis, we have a very unfortunate combination, especially if there is a great amount of hypalbuminosis.

Unless we believe that the anatomical lesions of Virchow to belong to chlorosis, there exists no difference between the symptoms of chlorosis and anæmia.

The therapeutic relations of the two diseases must be considered. While the indiscriminate use of iron in anæmia must be deprecated; yet, upon the whole, iron is just as much looked upon as a specific in anæmia as in chlorosis. Where in anæmia we try to remove the cause and institute causal treatment, we are satisfied in chlorosis with removing that symptom which is the essential of the disease. It has been repeatedly demonstrated that the removal of this essential symptom is followed temporarily by complete recovery. Whereas, in anæmia, treatment is followed by complete recovery or complete failure, iron in chlorosis will always result in amelioration, even if the tendency to relapse cannot be removed. There are few cases of chlorosis, even those with the lesions of Virchow, that are not benefited by the administration of iron in sufficient quantity. In a great many cases of anæmia, the use of iron would be followed by negative or by bad results.

DISCUSSION.

DR. WILLIAM OSLER, Baltimore, took issue with Dr. Henry in regard to chlorosis. He held that chlorosis is absolutely distinct from pernicious anæmia, and for the following reasons: (1) The sex. He had never seen chlorosis in the male. (2) The pathological conditions. He regarded the hyperplasia of the heart and great vessels as a specific anatomical distinction of a certain number of cases. (3) The character of the blood. He considered the diminution of the percentage of hæmaglobin a distinctive feature of chlorosis. (4) Curability. Although in chlorosis there is a tendency to relapse, each given attack can be cured if sufficiently large doses of iron are employed.

DR. FRANCIS P. KINNICUTT, New York, agreed as to the lack of relation between chlorosis and pernicious anæmia. He had never seen true chlorosis in the male. All his cases of pernicious anæmia on the other hand, with one or two exceptions, had occurred in males. He agreed with Dr. Henry in regard to the relationship between Hodgkins' disease and true leucæmia. He reported a case which came under his observation with typical symptoms of Hodgkins' disease. At this time the proportion of white corpuscles to red was normal. The spleen and liver gradually enlarged, and two years later, at the time of the patient's death, there was one white corpuscle to five or six red.

DR. W. W. JOHNSTON, Washington, thought that a study of certain anæmias which are met with in women will throw light upon the association of anæmia with diseases of the intestinal glands and gastric tubules. The explanation of the chronic anæmias of parturition is probably the continual pressure upon the intestinal tube, causing a long starvation lasting nearly a year. This seems to produce an actual organic change in the intestinal glands. Several illustrative cases were cited.

DR. WILLIAM PEPPER, Philadelphia, agreed with Dr. Osler in regard to the relation between true anæmia and chlorosis and progressive pernicious anæmia, so-called. He was not prepared to admit the analogy between true chlorosis and progressive pernicious anæmia. The conditions of the blood are widely antagonistic in these two affections. The clinical differences are also very marked. In the present state of knowledge, it is probably wiser to consider essential anæmia as an independent affection.

DR. FREDERICK P. HENRY, Philadelphia, thought that the definition of chlorosis given by Dr. Osler could not be maintained, that is, that there is always a diminution of hæmoglobin with a nearly normal number of red corpuscles. The arguments that he had advanced were based entirely upon personal observations. While chlorosis is readily relieved by treatment in the early stages, yet, if it is neglected, the chlorosis may become more intense and may present the appearance of pernicious anæmia.

SUBJECTIVE FALSE SENSATION OF COLD, CONSIDERED AS A SYMPTOM,

by DR. S. WEIR MITCHELL, Philadelphia.

The speaker had met with many cases where a feeling of cold is complained of in members which do not present any objective changes in temperature. These may be placed in three classes: (1) those due to a central cause; (2) those due to neuritis; (3) those whose origin is at present inexplicable or due to hysteria. A number of cases exhibiting this symptom to an extreme degree, were reported. In the first case, a marked sensation of cold, involving the left side of the body, followed an injury to the head. Three or four cases were referred to, coming in the second class. The sensation of cold involved the posterior part of the legs, the back or buttocks. In all these cases, there was either neuritis at the time, or it developed subsequently. When this symptom is noted neuritis may be expected. Two cases belonging to the third group were described. One was an elderly individual with no sign of hysteria. The other was a case of a young woman with marked hysterical symptoms.

DISCUSSION.

DR. JAMES J. PUTNAM, Boston, had frequently seen the coldness spoken of in chronic spinal disease and in neuritis, and described such a case in a man with chronic sensory neuritis.

DR. F. T. MILES, Baltimore, regarded this sensation of coldness as a very important symptom of neuritis, and reported a case associated with acute neuritis of the ulnar nerves.

GASTRIC NEURASTHENIA,[1]

by DR. G. M. GARLAND, Boston.

The author first reviewed Leube's observations on dyspepsia nervosa, and presented a category of the gastric neuroses. A case of anorexia nervosa, occurring in a woman sixty-three years of age was reported. The woman was of feeble constitution. She had digested her food without consciousness of the process, and her bodily functions were practically normal in every way except that she suffered from anorexia. Three cases of vomitus nervosus were then reported.

The conclusions drawn from the cases were that: (1) All the women have been of dark complexion. (2) They have not been of the so-called hysterical temperament. (3) Feeding by the mouth was abandoned in every case, and rectal enemata were necessary. (4) None of the drugs usually potent in soothing a nauseated stomach were of any avail. Morphia subcutaneously was the only remedy that was of benefit. (5) The vomitus caused great discomfort along the throat, and in one case caused severe glossitis. In connection with the hyperacidity, the reader referred to certain cases of acid vomiting described by Rossbach, and designated nervosa gastroxynosis. The acidity of these cases depends upon excessive secretion of

[1] This paper will be published in full in the Journal.

hydrochloric acid, and is independent of the presence of food in the stomach.

AFTERNOON SESSION.

The discussion of Dr. Garland's paper was taken up.

DR. S. WEIR MITCHELL, Philadelphia, said that in all cases of neurasthenia where there are great complaints of gastric and intestinal difficulty, the presence of hypochondriacal conditions must constantly be considered. It is rare for grave cases of neurasthenia to present themselves without some abdominal symptoms. In regard to anorexia nervosa he thought that in the majority of cases a background of hysteria would be found. It is suspicious that this condition is never seen in men.

DR. WILLIAM PEPPER, Philadelphia, asked in what respects, other than the invariable and extreme acidity of the matters vomited, these cases differ from those that have been described under the head of cyclic and recurrent vomiting. He had seen many such cases, and some like the fatal case reported. In some of the cases the vomited matters were extremely acid. He had had these matters examined chemically, with the hope of finding some leucomaine, but so far with negative results. In regard to the treatment, the only remedy that had been of benefit, had been antipyrine. In one or two cases this had apparently stopped the attacks.

SPECIMENS FROM TWO CASES OF CRETINISM,

were presented by DR. W. F. WHITNEY, of Boston.

PRIMARY CANCER OF THE GALL-BLADDER AND DUCTS,[6]

by DR. JOHN H. MUSSER, Philadelphia.

The speaker, after describing two cases of this affection that had come under his observation, reviewed the cases that had been reported and presented the the following conclusions:

Primary cancer of the gall-bladder is not so rare as is generally believed. It occurs in the female nearly three times as often as in the male. A large number (fifty-seven per cent) of the cases occur under the age of sixty.

Gall-stones are an exciting cause especially in persons predisposed to the affection. The organ is generally not much enlarged save as the result of secondary processes.

DR. HENRY FORMAD, Philadelphia, read a paper on

THE ANATOMICAL AND PHYSIOLOGICAL RELATIONS OF LESIONS OF THE HEART AND KIDNEYS.

The paper was based upon the post-mortem study of three hundred cases observed in public and private practice.

THE CONTAGIUM OF DIPHTHERIA,

by DR. P. G. ROBINSON, St. Louis.

The subject is one which merits our most earnest and continued study, because of the prominent place it occupies among the prevailing causes of annual mortality, and because of the diversity of opinion which is entertained in regard to its etiology, pathology and treatment. The disease has become familiar to the practitioner only within the last generation, although traced historically to a very remote period. It prevails very generally throughout this continent, and constitutes one of the chief and most constant causes of mortality, which amounts to nearly 125 per thousand of the population of the United States, and of cases reported the percentage of deaths is from thirty to thirty-five.

Diphtheria is an acute infectious disease, doubtless due to a living organism (microbe) the exact identity of which cannot yet be regarded as settled.

Primarily a local affection, the system becomes secondarily and generally infected through absorption of a poison generated at the primary and localized seat of inoculation.

The modes of infection are numerous, the contagium being directly transferred by contact in a dry state through the air for limited distances in foul clothing, in polluted food and drink, milk probably being a prolific source of infection.

The most difficult problem to solve is that which relates to the conditions most favorable to the growth and development of the germs and the propagation of the disease.

While, strictly speaking, diphtheria can hardly be called a filth-disease, since it prevails often to a very limited extent in those localities whose hygenic surroundings are apparently the worst, yet certain kinds of filthy accumulations, as the ordure of animals, notably the refuse of cowsheds and dairies, seem to furnish the most favorable conditions for the culture of this particular germ.

Until this problem can be solved and the life-history and habitat of the diphtheritic germ is understood, no definite plan can be formulated for the arrest of the contagion nor for the hopeful treatment of the disease.

FRIDAY, 20TH. — MORNING SESSION.

The following officers were elected:

President, Dr. S. C. Busey, Washington; *First Vice-President*, Dr. William Pepper, Philadelphia; *Second Vice-President*, Dr. Henry U. Lyman, Chicago; *Recorder*, Dr. I. Minis Hays, Philadelphia; *Secretary*, Dr. Henry Hun, Albany; *Treasurer*, Dr. W. W. Johnston, Washington; *Member of Council*, Dr. G. Baumgarten, St. Louis; *Representative on Executive Committee of Congress of American Physicians and Surgeons*, Dr. William Pepper, Philadelphia.

The following members were elected: Drs. William G. Thompson, William H. Thomson, J. West Roosevelt, New York; Drs. Charles Carey, Charles G. Stockton, Buffalo; Drs. Victor C. Vaughn, Heneage Gibbes, Ann Arbor; Dr. Charles W. Purdy, Chicago; Dr. Starling Loving, Columbus, O.; Dr. W. H. Geddings, Aiken, S. C.; Dr. William C. Dabney, Charlottesville, Va.; Dr. B. F. Westbrook, Brooklyn; Dr. Henry P. Walcott, Cambridge, Mass.

The date of the next meeting to be between May 20 and June 15, 1890.

A SUPPLEMENTARY INQUIRY INTO THE FREQUENCY WITH WHICH LEAD IS FOUND IN THE URINE,[7]

by DR. JAMES J. PUTNAM, Boston.

The paper embodied further researches as to the frequency with which traces of lead are found in the urine of persons in good health, or not presenting the classical symptoms of lead poisoning; and discussed the propriety of enlarging our clinical conception of that disease. A table was shown in which the results of the present investigation were combined with those

[6] This paper will be published in full in the Journal.

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reported upon two years ago, which may be summarized as follows: The urines of sixty-eight persons, either presenting no symptoms (healthy medical students), or only symptoms of specific or local disease (phthisis, pleurisy, local injuries, etc.), were found by Dr. A. M. Comey and Dr. C. P. Worcester, to contain lead in the proportion of about seventeen per cent.; while those of another group of 125 persons, presenting various symptoms of disease such as it was thought might possibly be due in part to lead poisoning, contained lead in the proportion of fifty per cent. The largest sub-group of this latter class embraced thirty-six cases, not strictly homogeneous, but made up of chronic or sub-chronic affections of the spinal cord and peripheral nerves. One (typical) fatal case of this sub-group was analyzed at some length, and the results of the microscopic examination of the spinal cord and nerves were reported upon.

A NUMBER OF OBSERVATIONS MADE ON BOSTON DRINKING-WATER,

by DR. E. M. GREENE, were reported, showing the frequency with which lead is present, and the length of time required to wholly rid a pipe of its presence.

HOW FAR MAY A COW BE TUBERCULOUS BEFORE THE MILK BECOMES DANGEROUS AS A FOOD-SUPPLY?

by DR. HAROLD C. ERNST, Jamaica Plain, Mass.

The observations which he reported were made at the instance of the Massachusetts Society for the Promotion of Agriculture. The surroundings of the animals used were prepared in the most careful manner. One hundred and fourteens amples of milk were examined for the bacillus, and these were obtained from thirty-six cows suffering with tuberculosis of some organ other than the udder. Seventeen samples were found to contain tubercle bacilli. These specimens came from ten cows. The cream was found to contain bacilli as often as the milk. The bacilli were present with a fair degree of constancy.

Well animals were then inoculated with the result of inducing the disease in 50% of the cases treated. Feeding experiments were also made with the result of inducing the disease in a number of calves and young pigs. The following conclusions were presented:— (1) Emphatically, milk from cows affected with tuberculosis in any part of the body may contain the virus of the disease. (2) The virus is present whether there is disease of the udder or not. (3) There is no ground for the assertion that there must be a lesion of the udder before the milk can contain the infection of tuberculosis. (4) On the contrary, the bacilli of tuberculosis are present and active in a very large proportion of cases in the milk of cows affected with tuberculosis, but with *no discoverable* lesion of the udder.

PRIMARY CANCER OF THE DUODENUM,

by DR. E. N. WHITTIER, Boston, was read by title.

DR. WM. OSLER, of Baltimore, exhibited a patient showing anæsthesia, the result of lesions of the cauda equina, from spina bifida which had healed.

HOT AIR INHALATIONS IN PULMONARY TUBERCULOSIS,

by DR. E. L. TRUDEAU, Saranac Lake.

The paper presented a brief clinical history of four cases treated during periods varying from one to four months, by Weigert's method. This was considered as secondary and only as a basis for the bacteriological study which is left to answer the claim of specificity made for the method. The question to be answered is, whether breathing of hot air can prevent the growth of the tubercle bacillus in the lungs of living individuals. The clinical evidence obtained brings out no positive proof in favor of the treatment. From the bacteriological research the following notes are made: In all the cases the bacillus which was present before the treatment remained in the sputum, and no effect was produced upon that important element of the disease. The claim of diminished virulence was tested by inoculations made on rabbits before, during and after the treatment. The sputum of one of the patients who improved was found fifteen weeks after the uninterrupted daily breathing of hot air to produce tuberculosis in the animals injected, as promptly and to a similar extent as that injected before the treatment had been instituted.

The author's conclusions were: (1) the therapeutic value of hot air inhalations in phthisis is doubtful; (2) the evidence obtained by bacteriological study of the cases recorded does not confirm the assumption that inhalations of heated air can either prevent the growth of the tubercle bacillus in the lungs of living individuals or diminish the virulence of this microbe when it has gained access to them.

NEW YORK ACADEMY OF MEDICINE. SECTION ON ORTHOPEDIC SURGERY.

STATED MEETING, April 19, 1889. A. B. JUDSON, M.D., Chairman.

PSOAS ABSCESS FOLLOWING POTT'S DISEASE.

DR. V. P. GIBNEY presented a patient, a girl fourteen years old, on whom he had operated for double psoas abscess following Pott's disease of nine years' duration. The carious vertebræ were evidently consolidated when, last November, large abscesses were discovered, and the patient was brought under treatment. On the right side the tumor was incised in Scarpa's space, and long forceps were passed under Poupart's ligament through the iliac fossa, and into the lumbar region, and a counter-opening was made on the forceps along the border of the erector spinæ muscle. Pieces of bone escaped with the pus. The cavity was curetted, and the bone scraped gently. With antiseptic dressing and injections of carbolic acid solution (1–40), and one per cent. creolin solution, both wounds closed in a month. The left side was then operated on by simple incision and drainage. Large quantities of bone detritus were scooped out with the finger. A sinus still remains on the left side from which a piece of bone is occasionally discharged.

The case was exhibited as showing the advantage of Owen's method over attacking simply the sac and not the whole suppurating track.

Dr. Gibney believed it would have been better to have treated both sides according to Owen's method; but in general he doubted the propriety of doing this operation during exfoliation, which would necessitate a subsequent operation. It is also important that the patient should be in pretty good condition.

DR. R. H. SAYRE had used injections of peroxide of hydrogen in large abscess cavities, with better results

than from carbolic, or bichloride, or boro-salicylic solutions.

DR. GIBNEY said that a similar experience had been reported by Dr. Vance.

DR. JUDSON thought an objection to operating on these cases was that for the natural incarceration of the pus and detritus, we substituted an artificial opening, necessitating antisepsis to hasten cicatrization. If these accumulations are doing no harm, it is better to leave them for removal by natural processes; and if in due time they perforate the skin, the general and local conditions are ready to promote evacuation and speedy cicatrization.

DR. J. A. WYETH said that operation is indicated when large abscesses are situated on exposed parts of the body, and liable to injury and subsequent septic complications. He recalled the case of a woman who, thirteen years after being considered cured of Pott's disease, slipped and fell on a large gluteal abscess. The accident speedily gave rise to symptoms of sepsis with high febrile movements, and several operations under ether were necessary for the removal of bone detritus, which was spread through the gluteal muscles. The patient ran great risks, but finally recovered. He had had other similar cases. A psoas abscess behind the peritoneum causing no trouble should be left alone, but one pointing in the thigh, back, or other exposed situation should be operated upon as the danger of the operation is almost nil.

DR. N. M. SHAFFER was reminded of the history of a patient with Pott's disease and an abscess occupying the gluteal region and the anterior part of the thigh. The child fell, striking the gluteal tumor. The immediate symptoms were alarming, but without the adoption of any special treatment the accident resulted in the entire disappearance of the abscess. If there were any means of determining with certainty when an abscess from Pott's disease contains bony detritus, it would be preferable to operate; but while spondylitis is still active, it is better to postpone operating as long as possible.

He recalled a case of Pott's disease and hip-joint disease which he had been watching for several years, where spiculæ of bone as large as the end of the finger were expelled in a sudden and violent attack of coughing. The bone was undoubtedly from the cancellous structure of the sixth or seventh cervical vertebra. The patient was relieved at once, and physical examination showed that very little trouble had been caused by the entrance of the bone through the lung tissue into the bronchial tubes.

KNOCK-KNEE. — CLUB-FOOT. — DEFORMITY FOLLOWING HIP DISEASE.

In a paper on "Osteotomy," Dr. WYETH related two cases in which he had corrected in-and-out knee in the same patient by double osteotomies. The patients were three and a half and four years old respectively. Both were discharged entirely relieved. Strict antisepsis was followed and the limbs were dressed in plaster-of-Paris in a position of over-correctness. He prefers MacCormac's incision on the outer side and just above the capsule, since the saphena vein and anastomatica magna artery are not endangered as in Macewen's operation on the inner aspect of the thigh. He also briefly related three cases in which patients, aged thirteen, eighteen, and twenty-six years respectively, had been relieved of the deformity following hip disease, and restored to good locomotions by operations on the femur. The method pursued was Gant's osteotomy below the lesser trochanter. The after-treatment had been Buck's extension and Hamilton's long splint. In one of the patients there had been double hip disease. Two months after the left femur had been operated on, the right was operated on; and four months after the date of the first operation the patient was discharged cured, with good locomotion.

He also related two cases in which congenital talipes equino-varus of the most exaggerated type had been corrected with good recovery, and with the feet in excellent shape. Tenotomy of the tendo Achilles, tibialis anticus, and tibialis posticus was first done; the first two subcutaneously, and the last by open incision, the tendon being disassociated from that of the flexor digitorum, and divided on an aneurism needle. The operation was completed by an osteotomy as follows: An incision was made on the outer side of the dorsum, exactly over the point of greatest convexity; the tissues were lifted from the tarsus by an elevator, and a conical section, including portions of the calcaneus astragalus, cupoid, and scaphoid, was removed. The rule should be to remove all parts which prevent replacement of the foot. The foot being brought into normal position by aversion and rotation, aseptic dressing and plaster-of-Paris completed the treatment, the result of which was excellent.

DR. GIBNEY said that the anatomical point raised in the paper concerning supra-condyloid osteotomies certainly commends to us the operation of MacCormac. Although in-and-out knee in the same subject is rare, he had seen many instances of multiple deformity among Bohemians and Italians. He had recently done a sextuple osteotomy at one sitting, and is treating an ununited fracture of the right tibia, all the others having united.

DR. JUDSON thought that in congenital talipes the reduction of the deformity by mechanical or operative means is easy; but that is a small part of the necessary treatment. So long as the patient is growing, he must be under occasional observation, and if necessary, made to wear for a few months, at intervals of two or three years, a brace fitted to the present needs, in order to prevent threatened relapses. In the deformities of the knee there is especial reason for preferring mechanical means of correction, because here we have the advantage of the leverage found in the tibia and femur; while in club-foot there is only the tibia on one side, and on the other, the short and many-jointed foot.

DR. H. L. TAYLOR said that late observation of the results of treatment is of especial importance in orthopedic practice. If surgeons and orthopedists would report the condition of patients five, ten, or more years after dismissal, a more intelligent choice of methods could be made.

DR. SHAFFER said that his experience with mechanical appliances in the treatment of talipes leads him to think that many severe operations are performed on patients who could be better treated by traction. He recalled a case in which there was confirmed equino-varus, although three or four tenotomies, and five or six osteotomies had been performed. He had applied the "external lateral stretcher," and the patient is now walking on the flat of the foot. He referred to the interesting question whether esteotomy

is advisible when there is motion in the hip-joint. In a patient on whom Dr. W. T. Bull had operated, some motion was found after etherization. The reduction of the deformity by osteotomy had been followed by persistent traction with the hip-splint; and good position and slight motion had both been retained.

Dr. Gibney believed that the presence of motion is not a contraindication to the operation. About six months ago he had performed Gant's operation for a right-angled deformity. The flexion had been reduced from 90° to 15°, and the limb was retained at 15° of flexion by a traction apparatus for three or four months, when it was removed and the patient allowed to walk about with a high shoe. After about six weeks, the flexion had increased to 25° or 30°. Traction was reapplied, and the limb is being again brought down. He recognized the necessity of protective apparatus in order to retain or increase the result secured by operation.

Dr. Wyeth had operated in several cases where there was motion, and had refused to do it in others. In a patient whom he had seen with Dr. L. A. Sayre, there was considerable motion, and he had done a tenotomy for temporary relief, postponing osteotomy.

Dr. R. H. Sayre said that in the case referred to improvement had followed the tenotomy, but an apparatus is necessary to prevent a return of deformity. He thought that in some cases sufficient reduction of the flexion might be brought about by section of the psoas and iliacus muscles. This had been done in one case in which, although the operation had been subcutaneous, injury of the vessels had been avoided. By open section this danger would be avoided.

Dr. J. D. Wilson expressed surprise at the frequent mention of elevations of temperature in the history of Dr. Wyeth's cases, which had been treated antiseptical. Have our teachings been too absolute, or do such temperatures really indicate imperfect antisepsis?

Dr. Wyeth replied that "the temperature of reaction," occasionally as high as 102°, occurred in the first twenty-four hours, but it usually fell to normal in forty-eight hours. Traumatism, ether, shock, and the use of sublimate combine to produce this reaction, which might still be called an aseptic temperature. He closed the discussion by saying that the simplicity and safety of osteotomy had been shown by the cases he had reported. While no case of equino-varus treated the first two years of life should require tarsotomy, neglected cases will present themselves where nothing but tarsotomy will give relief. The operation may give considerable foreshortening to the foot, but one can certainly correct the deformity, however great, by removing enough bone; and if this be properly done, he believed it to be real conservatism.

— Plans have been drawn and estimates approved for the erection of a large and well-equipped hospital building for the Philadelphia Polyclinic. The building committee is composed of six members of the faculty, Drs. Williams, Mays, Jackson, Leffman, Roberts and Wilson. A lot of ground on Lombard Street between Eighteenth and Nineteenth, 96x143 feet, has been purchased. Work will be begun at once on the task of clearing the ground, and the corner-stone laying is expected to take place in early November. The building entire will cost about $55,000, and it is thought will be ready by the winter of 1890.

Recent Literature.

The Essentials of Physical Diagnosis of the Chest and Abdomen. By J. Wallace Anderson, M.D., Physician to the Royal Infirmary, Glasgow, and Lecturer on Medicine, Royal Infirmary Medical School, author of "Medical Nursing." New York: Macmillan & Co. 1889.

This little volume of 150 pages, was written, as the author tells us, to provide junior students with a simple, concise work on Physical Diagnosis, that would take the place to some extent of the clinical lecture, and leave the instructor more time for practical demonstration. It seems to us to meet this aim, on the whole, very well. As the student progresses farther in his work he will find it advantageous, of course, to consult more extended works; but for the essentials, the cardinal points of physical diagnosis, Dr. Anderson is clear and sufficiently explicit. Occasionally only are mooted points introduced, and they are thrown into smaller print.

In a few points only does Dr. Anderson depart from the ordinary usage of the majority of authorities. For instance, he apparently uses only the monaural wooden stethoscope, saying of the ordinary form (flexible binaural) that its use involves the disadvantage of training one's self to the employment of two different modes of mediate auscultation; "for few will hold that the exclusive use of the binaural is to be preferred to that of the ordinary (sic) form." It is hardly necessary to say that this objection seems quite untenable.

While Dr. Anderson's descriptions of physical signs are, as a rule, clear and graphic, as, for example, in saying that the emphysematous chest is "the thorax of permanent inspiration," he lays stress always on showing the student when and how he may hear for himself specimens of each of the sounds to be studied, and so form his idea, independent of any description; for example, to hear bronchial breathing over a bronchus, etc.

Only one-sixth of the volume is given to the examination of the abdominal organs, and this is the least satisfactory part of the book. A full index greatly facilitates the usefulness of the volume for purposes of reference.

Lectures to Practitioners on the Diseases of the Kidney Amenable to Surgical Treatment. By David Newman, M.D., Surgeon to the Western Infirmary, Out-door Department; Pathologist to, and Lecturer on Pathology at Glasgow Royal Infirmary; Examiner in Pathology in the University of Glasgow; Vice-President Glasgow Pathological and Clinical Society. London and New York: Longmans, Green & Co. 1888.

This work is a series of lectures delivered to post-graduates in Glasgow during the autumn of 1886. It is a work that bristles with statistics and tables, the author having evidently consumed a vast amount of time and energy in collecting a large number of operated cases. Very few illustrations break the text. This is a matter to be regretted.

This work reads well and will be of interest to the busy practitioner. The author's opinions are calm and judicious, and the work distinctly marks an advance in this field of surgery.

THE BOSTON

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SPECIAL NATIONAL MEDICAL ASSOCIATIONS.

LAST week was pre-eminent in medical annals for the number of Special National Medical Societies holding their annual meetings, and most of these were on the same days, September 17, 18, 19 and 20.

The American Gynecological Society (the pioneer in these special national organizations) held its fourteenth annual meeting; the Dermatological Association (a but slightly younger sister) its thirteenth annual meeting; the Orthopedic Association (almost of another generation, but with the same vigor) its third annual meeting. These three societies all met in Boston; and we are fortunate enough, through the courtesy of their presiding officers, to be able to give our readers the Presidential Addresses delivered before these three learned bodies. There can be no doubt that our Boston friends will feel properly appreciative of the kind things which these gentlemen felt it right to say in regard to the professional zeal and wisdom manifest in the past in the city where they found themselves.

The meetings were scientifically and socially successful and agreeable and will be reported in full in the JOURNAL.

At the same time, in Washington, the Association of American Physicians was holding its fourth, and the American Pediatric Society its first annual meeting. The address of the President of the former, Dr. Francis Minot, we published last week; and the proceedings of the three days are reported in this issue. The Pediatric Society, which met under the able presidency of Dr. A. Jacobi, will give a good account of itself.

At the same time, the American Association of Obstetricians and Gynecologists, one of the youngest candidates for favor as a national special organization, met at Cincinnati, Dr. William H. Taylor being President. In October the American Public Health Association meets in Brooklyn, N. Y., the Rhinological Association on the 9, 10 and 11, in Chicago. In November the Academy of Medicine has its annual meeting in Chicago, and the Southern Surgical and Gynecological Association meets in Nashville. Indeed, at the rate at which these organizations are now springing up, no reputable physician ought to be able to satisfy himself long with any excuse for not belonging to at least one of them and for not attending its meetings, at least at times.

THE CAUSES OF SUPPURATION.

IN a paper read before the French Association for the Advancement of Sciences, M. Steinhaus, of Varsovia, combats the notion which has of late been gaining a strong hold of the professional mind, that without microbes there can be no suppuration.

He cites the experiments of Straus, of Bary and Christmas (among others) as giving results entire contradictory to the doctrine that suppuration is absolutely dependent on microbes. He has himself made two hundred and forty-five experiments on dogs, cats, guinea-pigs and hares.

As pyogenic agents, he has employed chloride of zinc, chloride of mercury, pure mercury, nitrate of silver, oil of turpentine, croton oil, and culture broths, which had contained the staphylococcus pyogenes. All these substances were injected under the skin of animals, after having previously been sterilized in Koch's apparatus.

The results were as follows: In the guinea-pigs and hares, only the chloride of mercury. mercury and the sterilized broths produced suppuration, while in the cats and dogs, besides these substances, oil of turpentine, petroleum, and nitrate of silver produced it as well.

These results compelled the conclusion that suppuration may be provoked by sterilized chemical bodies, and that it is possible without microbes.

MEDICAL NOTES.

— Dr. S. Weir Mitchell, of Philadelphia, has been elected President of the Congress of American Physicians and Surgeons which meets in Washington in September, 1891.

— The decline of the birth-rate proportionately to the death-rate, has again attracted legislature attention in France. The French Chamber of Deputies has inserted in an appropriation bill the following words:— "The fathers and mothers of seven children shall be exempt from all personal taxes and taxes on personal property." In the year 1888 there were registered in France 882,639 births and 837,867 deaths, or only 44,772 births in excess of the number of deaths. In 1887 the number of births in excess of the deaths was 56,536. The number of births over the number of deaths has been regularly decreasing for many years, and statisticians look forward naturally to the time when the figures will be equal, and then will turn the other way. In 1884 there were 937,000 births; in 1885, 924,000; in 1886, 912,000; in 1887, 899,000. In London alone in the year 1888 the number of births above deaths was superior to that in all France.

— The National Conference of Charities and Corrections was held in San Francisco, September 15th and following days. Among the subjects discussed was the "State and Care of the Insane," opened with a paper by Dr. W. W. Godding, Washington.

— The *New York Herald* discusses the Faith Cure System, as exemplified in the case of the late Martha Olsen, and after some pretty strong expressions of its views, concludes by saying, "It is all right to be religious, but it is all wrong to be fools."

— The President and Fellows of the King's and Queen's College of Physicians, in Ireland, having requested the Privy Council to include carbolic acid under the list of poisons, for purposes of restriction of sale, the lord-lieutenant has refused to do so, basing his decision on uniformity with usage in England, where, it appears, carbolic acid is held not to be a poison.

— A reporter of the *Pittsburgh Dispatch* "does up" an amputation for the delectation of his readers and explains the great care taken "to keep small insects out of the wounds."

"After the leg was severed from the body," says the scribe, "the stump was scraped very carefully; the chloride of mercury was kept flowing constantly over the wound to kill any insects that might be drawn by the wound. The doctors hold that the air is full of poisonous germs, which are attracted to a wound where blood flows. All the linens and gauze which are used in operations are soaked for twenty-four hours in bichloride from 100 to 500 per cent. in strength. This is done to prevent the slightest irritation after the operation has been performed!"

— As an illustration of the sort of problems in heredity which Mr. Francis Galton is desirous of investigating, we print the following question, which was proposed by him to the recent Congress of Psychological Physiology. He spoke of an aquarium divided into two parts by a plate of glass perfectly transparent, and therefore invisible to the fish. In one division there was a pike, in the other a gudgeon. Every time the pike saw the gudgeon he rushed to seize him, but every time he was stopped by the plate of glass. He did not learn soon, but for several months made this rush and bruised his nose against the glass. Finally he came to understand that for some reason inscrutable to his intelligence he could not seize the gudgeon, and then he gave it up. He now swam about seeing the gudgeon constantly but paying no attention to it. Then the plate of glass was removed. This made no difference, the pike did not attempt to take the gudgeon. He had acquired the habit of leaving the gudgeon alone. The question was, would his descendants inherit that habit or possess the original impulse of their kind? Illustrations of this kind, or showing the operating of the principle of acquired inheritance, are what Mr. Galton wants.

— The following item is copied from the *Evansville, (Ind.) Courier* as an example at once of clear English expression and intelligent economical science. "It has become customary with all corporations, societies, companies and many private individuals, when they have a job of building, repairing, painting, glazing, papering, printing, or any work to do, to ask for bids for the same. This has become so common that a large number of citizens have lately joined together for what they claim is self-protection, and will soon hold a mass meeting to act upon measures already proposed for mutual protection. Among these the one most necessary is some means to protect themselves against what they claim to be the exorbitant charges of the Medical trust. To do this blanks will be given to the heads of families for the purpose of getting bids for attending their families by the year or by the job, as they may deem best. This seems to be a good move, if carried out properly, and should include, besides the physicians, preachers, lawyers, and all other professions and artisans that have formed trusts, and thus a revolution will occur that all would gladly see succeed."

BOSTON.

— The following sign is displayed on a public thoroughfare in Boston. What it means, or what its patrons think it means, or what its owners intend its patrons to think it means, we do not venture to conjecture:

DOCTORS OF THE
BRITISH STAFF OF PHYSICIANS AND SURGEONS
ARE NOW STOPPING HERE.

NEW YORK.

— During the month of September there have been two deaths from electricity in the city. The first was that of the Superintendent of Construction of the East River Electric Lighting Company, who came in contact in the dynamo room at the works, with a current of a force of about one thousand volts (considerably less than it is proposed to employ in the execution of criminals under the new law), and was instantly killed. The other was that of an Italian fruit seller, who, while engaged in clearing out the gutter of an iron awning which leaked upon his stand at the curb, during a severe storm, touched an electric light wire and was also instantly killed.

— By will of the late Alonzo Clark, M.D., LL.D., it was placed in the power of the faculty of the New York College of Physicians and Surgeons to bestow a scholarship, with an income of about nine hundred dollars a year, for the purpose of promoting the discovery of new facts in medical science. This has been bestowed for three years from October 1, 1887, upon T. Mitchell Prudden, M.D., of New York City.

— A coroner's jury has held for the grand jury, for criminal negligence, one Carl Olsen, in whose family a young woman recently died of typhoid fever. Both Olsen and the patient were believers in the "faith cure," and refused medical attendance.

Miscellany.

DR. I. MINIS HAYS RETIRES FROM THE EDITORSHIP OF THE MEDICAL NEWS.

WE regret to learn that Dr. I. Minis Hays, who succeeded his father as Editor of the *American Journal of Medical Sciences*, and who has been identified with the *Medical News* as its editor since its establishment under its present form and title, is about to retire from the editorship of this weekly medical periodical. We are sure the readers of the *Medical News* will share these regrets, for Dr. Hays has been a most faithful and admirable medical editor.

The *Journal of the Medical Sciences* will continue to enjoy the advantage of the valuable services of its present editor. Dr. Hobart A. Hare succeeds Dr. Hays in the editorial chair of the *Medical News*.

COEXISTENCE OF DIABETES IN HUSBAND AND WIFE.

AT a meeting of the *Société Médicale des Hôpitaux* of Paris, on July 26th, as we learn from the *London Medical Recorder*, Dr. Debove presented a communication on the comparatively frequent existence of diabetes in husband and wife at the same time. In a series of fifty cases which had come under his observation, this had occurred five times. A similar coincidence had been noted by M. Lécorché, who thought it might be explicable either by similarity of diet, or by both patients sharing each other's anxieties. M. Debove, however, asks whether the fact is not suggestive of contagion, but, till more facts are accumulated, he refrains from formulating any theory on the subject. In the discussion which followed, instances of the coincidence in question were cited by Drs. Rendu, Gaucher, Letulle, Labbé, Dreyfous, and others.

PRE-CANCEROUS CONDITIONS OF THE TONGUE.

IN a paper read before the Harveian Society of London (*Illustrated Medical News*, March 30, 1889, and *Edinburgh Medical Journal*, September, 1889), Mr. Butlin gives the result of his experience on the above subject. His conclusions are under three heads :— (1) The proportion of cases of cancer of the tongue in which there is a preceding well-recognized diseased condition. On this point the result is that of fourteen cases observed by himself, "more than seventy per cent of them had suffered from a pre-cancerous condition, some form of leucoma, or chronic superficial glossitis." (2) The relative importance of various pre cancerous conditions. On this point Mr. Butlin gives as his opinion, "that the most dangerous condition is that in which the leucomatous areas are very thick and watery." (3) The question of the early and free removal of pre-cancerous conditions. Mr. Butlin's remarks on this head resolve themselves mainly into a recommendation to remove pre-cancerous affections of the tongue freely, if at all, — in other words, to treat such conditions as if they were really malignant, and not merely suspected.

MISAPPLIED PHYSIOLOGICAL INGENUITY.

THE *Medical Press and Circular* finds in an Indian contemporary some curious instances of misapplied ingenuity on the part of certain habitual criminals in that country. The discovery on a prisoner of a heavy leaden bullet, about three-quarters of an inch in diameter, led to an inquiry into the object to which it was applied. It was ascertained that it served to bring about the formation of a pouch-like recess at the base of the epiglottis. The ball is allowed to slide down to the desired position, and it is retained there for about half an hour at a time. This operation is repeated many times daily until a pouch the desired size results, in which criminals contrive to secret jewels, money, etc., in such a way as to defy the most careful search, and without interfering in any way with speech or respiration. Upwards of twenty prisoners at Calcutta were found to be provided with this pouch formation. The resources of the professional malingerer are exceedingly varied, and testify to no small amount of cunning. The taking of internal irritants is very common, but would-be in-patients very frequently overshoot the mark and render recovery impossible. Castor oil seeds, croton beans, and sundry other agents are employed with this object in view, and the medical officers of Indian prisons have to be continually on the lookout for artificially induced diseases, which baffle diagnosis and resist treatment. Army surgeons are not altogether unfamiliar with these tricks, but the British soldier is a mere child in such matters compared with the artful Hindoos.

FIFTEENTH ANNUAL SESSION OF THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

THE Mississippi Valley Medical Association met in its Fifteenth Annual Session, September 10th, 11th and 12th, at Evansville, Ind., the Crescent City of the Ohio. Dr. A. M. Owen, was chairman of the committee of arrangements. The President of the Association, Dr. George F. Cook, of Indianapolis, presided over the meeting. He waived his right to make a presidential address, in view of the amount of scientific work to be done, as the programme showed ninety-eight papers to be read. The majority of these were read during the three days' session, though the time for discussion was rather limited. Much time was saved by grouping papers on kindred topics, and discussing them together.

The election of officers resulted as follows: *President*, Dr. Joseph M. Matthews, of Louisville, Ky.; *First Vice-President*, Dr. E. R. Earley, Ridgeway, Pa.; *Second Vice-President*, Dr. T. B. Harvey, Indianapolis, Ind.; *Permanent Secretary*, Dr. E. S. McKee, Cincinnati, O.; *Treasurer*, Dr. C. F. McCahan, Chattanooga, Tenn.; *Chairman Committee of Arrangements*, Dr. I. N. Bloom, Louisville, Ky. Louisville was chosen as the next place of meeting; time, September, 9th, 10th, 11th, 1890.

The social features of the meeting were much appreciated. On the evening of the first day a banquet was given in a beautiful grove just out of the city, which was rendered perfect by perfect weather, everything else having been perfected beforehand.

A complimentary concert and ball were given on the evening of the second day.

Correspondence.

POSTURE AFTER CONFINEMENT.

BOSTON, September 14, 1889.

MR. EDITOR, — In confirmation of the rational mode of treatment as given in the paragraph "Position immediately following delivery," in the JOURNAL of the 12th inst., I send you a record of a regular midwife, who has practiced here in Boston since 1851, and whose treatment is just like that one recorded. She has a nurse to her cases only when subsequent illness occurs, otherwise the mother and infant are attended by her once a day, and the remainder of the time by a neighbor or some inmate of the family.

Mrs. Hasenfuss' books record a marvellous success in treatment dating from April 1, 1851, to April 1, 1889, — 7,440 deliveries.

Some of our most renowned men-physicians attended with her to those cases where forceps were needed. All other irregular presentations she manages herself. She has had child-bed fever occur in regular cases only, between twenty and thirty times; no loss by death.

About twenty deaths are recorded from peritonitis or convulsions, and one from placenta prævia; in all these cases she had the assistance of well-known obstetricians.

She herself has borne seventeen children, of whom the youngest is eighteen years old.

MARIE E. ZAKRZEWSKA, M.D.

— A man in Manchester, N. H., has brought suit for one hundred dollars damages against "Dr. Fritz," for failure to cure him of dyspepsia; the contract price for which achievement was to be fifteen dollars. This sum the patient paid down, but he unfortunately remains uncured.

— Dr. J. W. Owen, over eighty years of age, a prominent physician, well-known throughout Virginia and Maryland, died at his residence in Stephens City, Va., the 15th inst.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 14, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	624	261	25.59	16.22	15.11	2.39	5.09
Philadelphia	1,040,245	—	—	—	—	—	—	—
Chicago	830,000	360	195	33.33	6.44	22.68	2.52	6.16
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	164	63	18.91	25.25	7.93	3.66	3.05
St. Louis	450,000	165	66	17.69	6.06	9.15	3.05	4.27
Boston	413,567	204	98	27.93	9.10	19.11	2.94	5.39
New Orleans	250,000	—	—	—	—	—	—	—
Cincinnati	225,000	108	—	16.56	18.80	7.36	4.60	1.84
Washington	225,000	101	38	25.74	9.90	8.91	5.94	9.90
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	17	7	41.16	5.88	29.40	5.88	—
Charleston	60,145	38	14	23.67	13.15	15.78	—	—
Portland	40,000	17	6	35.28	11.76	35.28	—	—
Worcester	78,292	20	17	45.00	5.00	20.00	—	20.00
Lowell	71,518	32	12	31.25	15.65	21.91	3.13	6.26
Cambridge	65,552	28	13	21.42	10.71	17.85	3.57	—
Fall River	62,647	35	19	28.57	5.72	20.00	5.72	—
Lynn	53,334	17	—	17.64	11.76	17.64	—	—
Springfield	40,731	16	4	25.00	12.50	6.25	12.50	6.25
Lawrence	40,619	16	9	50.00	—	12.50	6.25	31.25
New Bedford	37,253	29	17	29.20	6.90	20.70	6.90	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	6	2	16.66	—	16.66	—	—
Brockton	28,813	7	4	71.40	—	28.56	—	14.28
Chelsea	28,167	11	1	18.18	18.18	9.09	9.09	—
Haverhill	26,058	4	2	50.00	—	50.00	—	—
Taunton	25,170	—	—	—	—	—	—	—
Gloucester	24,263	5	1	20.00	—	20.00	—	—
Newton	21,553	6	2	—	33.33	—	—	—
Malden	19,774	6	3	16.66	16.16	16.16	—	—
Fitchburg	17,534	7	4	42.84	—	14.28	14.28	14.28
Waltham	17,332	3	1	—	33.33	—	—	—
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	4	2	—	—	—	—	—
Quincy	13,728	9	8	11.11	—	11.11	—	—

Deaths reported 2,059: under five years of age 869; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 528, consumption 239, acute lung diseases 129, diarrhœal diseases 322, diphtheria and croup 92, typhoid fever 64, whooping-cough 15, malarial fever 14, scarlet fever 9, cerebro-spinal meningitis 8, measles 3, erysipelas 1. From whooping-cough, New York 8, Chicago 4, Baltimore 2, Fall River 1. From malarial fever, New York 8, Baltimore 4, Charleston 2. From scarlet fever, New York, Chicago, St. Louis and Cincinnati 2 each, Baltimore 1. From cerebro-spinal meningitis, Cincinnati 2, Boston, Washington, Nashville, Charleston, Worcester, and Brockton 1 each. From measles, New York, Cincinnati and Brockton 1 each. From erysipelas, Chicago 1.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,555,406, for the week ending September 7th, the death-rate was 16.2. Deaths reported 2973: Infants under one year 839, diarrhœa 255, fever 63, scarlet fever 59, whooping-cough 58, measles 40, diphtheria 37.

The death-rates ranged from 13.2 in Leicester to 26.9 in Newcastle-on-Tyne, Birmingham 17.3, Bradford 18.2, Hull 17.6, Leeds 18.8, Liverpool 18.2, London 14.0, Manchester 20.7, Nottingham 16.9, Sheffield 14.8, Sunderland 20 6.

In Edinburgh 12.7, Glasgow 21.2, Dublin 18.6.

The meteorological record for the week ending Sept. 14, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending Saturday, Sep. 14, 1889.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.		8.00 P. M.	Daily Mean.	8.00 A. M.		8.00 P. M.	8.00 A. M.		8.00 P. M.	8.00 A. M.		8.00 P. M.	Duration: Hrs. & Min.	Amount in Inches.
Sunday,.. 8	30.21	64.0	67.0	61.0	89		95	92	N.E.		E.	6		2	O.		C.		.00
Monday,.. 9	30.22	62.0	66.0	58.0	94		95	94	N.E.		N.E.	12		17	R.		O.	2.00	.T
Tuesday,..10	30.18	63.0	66.0	60.0	84		89	86	N.E.		N.E.	24		20	O.		O.	0.35	.T
Wednes..11	30.12	61.0	64.0	58.0	94		89	92	N.E.		N.E.	24		24	R.		O.	13.20	.30
Thursday,12	30.17	64.0	66.0	61.0	100		89	94	N.E.		N.E.	24		24	R.		O.	9.50	.40
Friday,...13	30.29	62.0	65.0	60.0	87		89	88	N.E.		N.E.	24		14	O.		O.		.00
Saturday,.14	30.29	65.0	70.	60.0	90		95	92	N.E.		N.E.	6		11	O.		O.	11.10	.44
Mean for Week.																			

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 14, 1889, TO SEPTEMBER 20, 1889.

By direction of the acting Secretary of War, leave of absence for fourteen days on surgeon's certificate of disability is granted Colonel ANDREW K. SMITH, surgeon U. S A. Par. 1, S. O. 214, A. G. O., September 14, 1889.

By direction of the acting Secretary of War, First Lieutenant FREEMAN V. WALKER, assistant surgeon, is relieved from duty in the Department of Texas, and will, upon the expiration of his present leave of absence, report in person to the commanding officer Jackson Barracks, La., for duty at that station, and by letter to the commanding general Division of the Atlantic. Par. 2, S. O. 212, A. G. O., September 12, 1889.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING SEPTEMBER 21, 1889.

BEARDSLEY, G. G., medical inspector, granted six months' leave with permission to go abroad.

RUTH, M. L., surgeon, order granting furlough revoked, and placed on waiting orders.

HUDSON, medical director, WOODS, medical inspector, and DICKINSON, surgeon, will continue as president and members of an Examining Board for examination of applicants for the position of assistant surgeons in the Navy, at San Francisco, Cal., until June 30, 1890.

OBITUARY. DAVID S. GLONINGER, M.D.

Dr. David S. Gloninger, a well-known obstetrical surgeon, of Philadelphia, died September 13th. He was born sixty-one years ago in Lebanon County, where his father, John W. Gloninger, M.D., was a surgeon, and in 1840 was graduated from the Pennsylvania University, since which time he had been a resident in Philadelphia. During the late war Dr Gloninger was in charge of the hospitals located in the Second Regiment Armory, and in the school-house at Crown and Race Streets. He was also stationed for a while on a gun-boat at Fortress Monroe. It is said he established the German Reformed Mission, from which the present church at Seventh and Oxford Streets was evolved, more than thirty years ago.

BOOKS AND PAMPHLETS RECEIVED.

The Fatality of Cardiac Injuries. By. H. A. Hare, M.D. Reprint. 1889.

Infant Feeding By Charles Warrington Earle, M.D., Chicago. Reprint. 1888.

The Fatality of Heart Wounds. — Part II. By H. A. Hare, M.D. Reprint. 1889.

Antiseptic Obstetrics. By Charles Warrington Earle, M.D., Chicago. Reprint. 1888.

New York Post-Graduate Medical School and Hospital. Eighth Annual Announcement. Sessions of 1889-90.

Monomania. By Clark Bell, Esq. President of the Medico-Legal Society of New York. Reprint. 1889.

The Treatment (not Preventive) of Puerperal Fever. By Charles Warrington Earle, M.D., Chicago. Reprint.

Syphilis of the Nervous System. By H. C. Wood, M.D., LL.D. 1889. Detroit, Mich.: George S. Davis,

State Board of Health of New York, Local Health Service of the State. Extract from the Ninth Annual Report.

Suicide and Legislation. By Clark Bell, Esq., President of the Medico-Legal Society of New York. Reprint. 1888.

Fourth Annual Report of the State Board of Health of the State of Maine, for the fiscal year ending December 31, 1888.

A Case of Loreta's Operation for Stricture of the Pylorus. By T. W. Huntington, B.A., M.D. Sacramento, Cal. Reprint. 1889.

The Effect of the Entrance of Air into the Circulation. By H. A. Hare, M.D. Reprint. Detroit, Mich: George S. Davis. 1889.

How Shall We Deal with the Inebriate? By L. W. Baker, M.D., Member New York Medico-Legal Society, etc. Reprint. 1889.

Eighth and Ninth Inaugural Addresses of Clark Bell, Esq., as President of the Medico-Legal Society of New York. Reprints. 1888-89.

Light Gymnastics for Schools. By F. N. Whittier, A.M., M.D., Director of Sargent Gymnasium, Bowdoin College, Brunswick, Me Reprint. 1889.

Observations in Vienna: The General Hospital; Billroth, Carl Braun, Bandl, and others. By Charles Warrington Earle, M.D., Chicago. Reprint. 1888.

Observations in Chiara's Clinic and the Hospital St. Maria Nuova, Florence, Italy. By Charles Warrington Earle, M.D., Chicago. Reprint. 1887.

The Influence of Sewerage and Water Pollution on the Prevalence and Severity of Diphtheria. By Charles Warrington Earle, M.D., Chicago. Reprint. 1888.

An Experimental Study of Intestinal Anastomosis with some practical suggestions as to a Modified Technique. By A. V. L. Brokaw, M.D., of St Louis, Mo. Reprint. 1889.

On the Healing of Aseptic Bone Cavities by Implantation of Antiseptic Decalcified Bone. By N. Senn, M.D., Ph.D. Attending Surgeon to the Milwaukee Hospital, etc. Reprint. 1889.

The Diseases of Children, Medical and Surgical. By Henry Ashby, M.D., London, M.R.C.P., etc., and G. A. Wright, B.A., M.B., Oxon., F.R.C.S., England. London: Longmans, Green & Co. 1889.

Addresses of President C. W. Earle, Delivered at the Thirty-Ninth Annual Meeting of the Illinois State Medical Society, May 21, 1889. The Responsibilities and Duties of the Medical Profession Regarding Alcoholic and Opium Inebriety.

The Mortality of Acute Lobar Pneumonia, from a study of all the cases of this disease treated at the Massachusetts General Hospital from the first Case in 1822, up to the present day. By C. W. Townsend, M.D., and A. Coolidge, Jr., M.D., of Boston.

Cyclopædia of the Diseases of Children, Medical and Surgical. The articles written especially for the work by American, British and Canadian authors. Edited by John M. Keating, M.D. Vol. I. Illustrated. Philadelphia: J. B. Lippincott Co. 1889.

Die Krankhaften Störungen des Baues und der Zusammensetzung des Menschlichen Körpers. (Allgemeine Pathologische Morphologie) von Dr. Edwin Klebs, O. O., Professor der allgemeinen pathologie und der pathologischen anatomie an der universität Zürich. Mit 79 farbigen abbildunden im text und 47 farbentafeln. Jena: Verlag von Gustav Fischer. 1889.

Original Articles.

GASTRIC NEURASTHENIA.[1]

BY G. M. GARLAND, M.D.,
Instructor in Clinical Medicine in Harvard University, Boston.

IN 1878[2] Leube demonstrated the fact that many cases which had previously been grouped under the term "gastric catarrh" were clearly free from catarrh. The stomachs involved were organically and functionally sound so far as the gross results of digestion were concerned. To determine the gastric integrity of such cases he gave the now celebrated test breakfast (Probe frühstich) of beef, bread, and tea, and washed out the stomach during the seventh hour. In each of the special cases differentiated by him he found the digestion perfectly completed within the normal time.

On the other hand, accompanying this interval of normal digestion were the following complaints: congestion of the head, headache, dizziness, palpitation and pulsation of the abdominal aorta. In the intestinal tract itself the patient suffered from belching, pressure, fulness and tenderness in the epigastrium, pyrosis, anæmia, nausea, hiccough, yawning, and alterations of taste.

Leube argued that such discomforts must be due either to the irritation caused by certain chemical products of digestion acting peripherally or centrally, or they must be directly called forth by an increased irritability of the gastric nerves to ordinary stimuli. Inasmuch as chemical changes of food require a certain interval for their production, one would not expect the nervous effects until later in the process of digestion, whereas, in Leube's cases the discomforts usually began immediately on eating. Therefore, he believed that they were due to direct mechanical irritation of over-sensitive nerves, and he grouped such cases under the title of *Nervöse Dyspepsie*. He considers this dyspepsia an independent affection, and one that must be carefully distinguished from the nervous phenomena which accompany gastric catarrh, ulcer, cancer, etc.

"We should apply the term nervous dyspepsia," he says, "only to such abnormal cases as present no anatomical obstacle to the assumption that the nervous system, and particularly the gastric nerves themselves, are exclusively involved in the production of the trouble."

Following Leube's paper, there arose an active discussion as to his assumption that the syndrome described by him was due to a local affection of the gastric nerves. It had been previously well-known that gastric crises of varying degrees and kinds were associated with certain central lesions of the cerebro-spinal axis. Working upon the lines suggested by Leube, it was soon found that neurasthenic patients, having no central nervous lesions, were presenting all kinds of gastric phenomena, which were simply the results of nerve-storms sweeping through systems endowed with deficient inhibitory powers. Hence nervous dyspepsia has secured a place in the category of neurasthenic accidents.

- Secretory neuroses
  - Irritative forms
    - Gastroxynsis.
    - Gastrosuccorrhœa.
  - Depressent form — Deficient secretion.
- Sensory neuroses
  - Alterations of physiological sensations,
    - Hunger
      - Increased.
        - Heisshunger.
        - Wolfhunger.
        - Bulimia.
      - Diminished.
      - Absent — Anorexia nervosa.
    - Satiety
      - Increased.
      - Diminished.
      - Absent.
  - Pathological changes
    - Feeling of motion and of burning.
    - Nausea. Pressure.
    - Gastralgia. Cardialgia. Gastrodynia.
    - Hyperæsthesia.
- Motory neuroses
  - Hyperkinesis
    - Peristalsis and antiperistalsis.
    - Eructation. Belching.
    - Nervous vomiting.
    - Cramps in stomach
      - General.
      - Cardiac.
      - Pyloric.
  - Hypokinesis
    - Atony of the stomach,
    - Insufficiency of the cardiac orifice,
    - Insufficiency of pylorus,

    — Regurgitation or merycismus.
- Vaso-motor neuroses.

Stiller[3] has divided such gastric neuroses into *idiopathic*, *reflex*, and *general* neuropathic types. Inasmuch as this arrangement necessitates considerable repetition, Oser[4] and Glax abandon the etiological basis, and draw upon the physiological functions of the stomach for the classification of the disorders. The arrangement given above, modified from Glax and Oser, seems on the whole to be the most simple.

The time allowed for this paper will not admit of an extended discussion of this classification, and no doubt cases occur to each one of my hearers which readily fall into place in the tabular arrangement without further explanation. I desire merely to describe a few cases which have occurred to myself, and note their position in the list. The first case is one which seems properly to come under the group of sensory neuroses; it is *Anorexia Nervosa.*

CASE I. May, 1884. Mrs. T., a widow, sixty-three years of age. Patient has never been very

[1] Read at the meeting of the Association of American Physicians, Washington, D. C., September 19, 1889.
[2] Leube: Deutsche Arch. f. Klin. Med., 1878, p. 98.
[3] Stiller: Die Nervösen Magenkrankheiten, 1884.
[4] Oser: Die Neurösen des Magens, 1885.

strong. Had an attack of dysentery one year ago, and is troubled more or less with piles. She complains of great weakness, which comes on by spells, and she has a tired feeling all over. Sleeps well. She has *absolutely no appetite.* She gets out of breath going upstairs, and vomits often. Occasionally has dizzy spells following the vomiting, and some headache. The bowels are pretty regular, but inclined to looseness on provocation. She looks very pale, and dark around her eyes, and has a melancholy-depressed expression. There is no cough. Her chief complaints are weakness, and entire absence of appetite. There is a systolic murmur at the apex of the heart. Forced feeding and tonics gradually restored her to her usual strength after several weeks.

January, 1886. Mrs. T. began to complain of numbness and prickling in the tips of the fingers on both hands. The touch of woolly materials was very disagreeable to her. In the following March she summoned me, and complained of three things: the distressing prickling of finger-tips, no appetite, and weakness. She grew gradually weaker and weaker until April 8th, when she became unable to go about any longer, and kept her bed. Temperature and pulse were normal; urine also normal. She lay in bed four weeks, and was fed every three hours on milk, Mellin's food, broths, wine, etc. She gradually lost her sense of prostration; her bowels became regular. Tonic medicines were administered as her stomach would bear them. Her tongue was always red, and never coated. When she first began to walk, her legs were excessively weak, so that she staggered and fell against articles of furniture. She could not lift her feet, but hitched them along. In May, 1886, I tested the knee-jerk, and found that it was absent. Under prolonged use of massage, forced feeding, and tonics she slowly regained her usual health, and numbness and prickling of fingers-tips almost disappeared. During this entire illness she never complained of anything except repugnance to food, weakness, and prickling of finger-tips.

August, 1889. Patient applied to me again on account of poor appetite. When she entered my office she looked so pale and wan that I thought she would faint away. She said her appetite had been failing for six months, and since hot weather set in it had gone entirely. There were days when she would feel as well as ever, except for weakness and absence of appetite. Sometimes she would taste nothing all day long until evening, when she would force herself to take a teaspoonful of Murdock's food. She has been able to go about the house at will, and she had particularly noticed that during the spring she was able to walk up two flights of stairs from her dining-room without palpitation or shortness of breath. Since her appetite left her completely, she has lost flesh and grown very nervous. A very little excitement will prevent her from sleeping. Tongue is red, and has no coating; its edges are sore with canker spots. The patient has no nausea or vomiting, however, and food when eaten does not distress her. It apparently digests all right, although, as I have previously noted, her bowels are inclined to looseness if she indulges in fruit or indigestible food. At present her bowels are regular. She complains of no belching, no eructations of gas, and no acidity in throat. The urine was found normal. The murmur of the apex still persisted, but was very faint, and the action of the heart was otherwise normal. She was put upon tonics and forced feeding — a teaspoonful of some kind of food every fifteen minutes.

We have here the history of a woman of feeble constitution and a small fund of reserve energy, who digests her food without any consciousness of the process, and whose bodily functions are practically normal in every way except that she suffers at times from an absolute anorexia. The term anorexia nervosa was originated by Sir William Gull, and indicates that loss of appetite is the chief and characteristic feature of the case. J. Matthews Duncan[5] says:

"A good example is one of the most ghastly spectacles you will meet with in practice, but the sadness of the picture is relieved by the fact that they all recover and recover completely. I dare say the disease occurs in men but I am not aware of a case. The patient loses appetite and becomes emaciated. The catamenia cease, and, if the woman is married, fecundity is arrested. The bowels are very constipated, the stools dry and hard. There is no increase or desire for attention and sympathy, on the contrary the patient is rather inclined to reserve and seclusion. The patient makes little or no complaint, it is her friends that complain for her. There is no noticed weakening of the mind. There is great desire for exercise, especially walking exercise; the patient has a degree of festination and does not get tired, does not want to rest. Here you recognize a disease quite different from hysteria and neurasthenia."

For cases of this character Wiessner[6] recommends the *gavage* of Dujardin-Beaumetz. He employs a short rubber tube which reaches just below the cricoid cartilage, and is attached externally to a bottle or funnel containing the liquid food. The tube is easily introduced, and, although it occasions some retching at first, the patient soon becomes accustomed to it. On removal, the tube should be tightly pinched to prevent any of its contents from dropping down the larynx and trachea. The food should be liquid and should not be introduced too rapidly, or it will excite attempts at vomiting.

Wiessner figures that about 100 grammes of albumen, 150 grammes of fat, and 300 grammes of carbohydrates are a sufficient amount of daily nourishment. Accordingly he mixed up 2 litres of milk, 60 grammes of butter, 6 eggs, 100 grammes of sugar and warms them while stirring. He give a third of this amount three times daily. He says the patient soon finds she can digest her food and she is encouraged to eat for herself.

The next three cases I classify under the term *Vomitus Nervosus.*

CASE II. Miss S., began at two years of age to have sudden attacks of vomiting, in which she expelled a quantity of bile, and then recovered. She had three attacks at that time in three months, and from then to the date of her death she was subject to similar seizures at irregular intervals. Her mother always called them bilious attacks, and said that they were most frequent in the fall of the year and after the first cold snap. The mother always expected an attack when the child appeared extra well and vivacious, and it usually came the next day. The vomitings generally lasted twenty-four hours, and

[5] J. Matthews Duncan: The Lancet, May 18, 1889.
[6] Wiessner: Nervöse Dyspepsie. Inaugural Dissertation, Berlin, 1888.

then it took a week for the child to recover her strength.

She had scarlet fever at six years of age, and it was ushered in by a violent attack of vomiting and muscular twitchings. Subsequently the measles were similarly introduced. She broke her arm during her sixth year, but had no serious disturbance with it.

At eleven years of age Miss S. had a slight attack of St. Vitus dance, and was removed from school for two years by advice of her physician. The menstrual flow was established at thirteen years of age, but it had been preceded for six months by a peculiar pain in the abdomen, which disappeared when the menses began.

As Miss S. approached the age of twenty she began to develop a new symptom in association with her so-called bilious attacks. Whenever nauseated, she would experience excessive muscular twitchings of the entire body, which, increasing in energy with the progress of the nausea and vomiting, would finally be sufficient to throw the body all over the bed. The contractions were never tonic. There was no opisthotonos or prolonged tension of any kind, but simply a violent commotion of the muscles, which was not attended by any pain, but was uncontrollable by the patient. When seen in such an attack by the writer, the patient was apparently perfectly calm mentally and in full possession of her senses, without excitement of any kind, and she usually tried but in vain, to exert restraint upon the bodily movements. There was no hysterical mental phenomena whatever. There seemed to be merely a loss of inhibitory power and the muscles ran riot. These same twitchings occurred on ship-board during sea-sickness.

In the fall of 1882, when Miss S. was twenty-two years of age, she began to have severe headaches which gradually increased in frequency until the spring of 1883, when they were merged into one steady ache. The patient was naturally of a very dark complexion, but at this time she lost flesh, became very sallow, and was prostrated by any ordinary effort of exercise, and was very despondent. She was treated during the summer by Chapman's ice bags to the spine, prolonged hours of rest in bed, and general tonics, and gradually recovered her flesh, strength and good spirits. During the fall and winter she was apparently perfectly well.

January 1, 1884, I was summoned, and found her in bed with intense headache and slight twitching of the arms and legs. On the next day vomiting began, and the twitchings were so violent that morphine (one-eighth grain), was administered to stop them. Two subcutaneous injections of morphine per day were all that were required. The bowels were constipated but were relieved by aloin. No food was retained by the stomach. Patient after vomiting some time complained of intense burning and rawness in the throat and stomach. The tongue was sore and the mouth dry. Improvement set in on the fourth day and she began to eat on January 6th.

January 9th. Found her better of other troubles, but her tongue was very sore with canker spots along its left border. The left half of tongue swollen, tender and very red. This swelling, redness and soreness, subsided in a few days under local washes.

January 13th. She ate a piece of brown bread and took some beef tea. She soon began to vomit, and passed through her previous distress again. The vomitus consisted of thick, viscid mucus, stained with bile. Stomach was painful and tender to pressure. Evening temperature was 100.8° F. Pulse 100.

January 14th. Temperature 99.6°, pulse 96. Gradually recovered from this attack until January 27th, when she had a third, which lasted a few days. She was fed by the rectum for three days during this attack. She enjoyed exceptionably good health during the following summer and fall.

November 12th. Miss S. started on her last illness at twenty-six years of age. She was seized with an intense headache, loss of appetite and malaise. On November 15th vomitings and twitchings began. She vomited once an hour, or oftener, for thirty-six hours. One-quarter of a grain of morphine was given every four or five hours. There was occasional hiccough, distress in stomach, with burning and dryness of the mouth, tongue and throat. The headache persisted, and the eyes became bloodshot. The micturition caused trouble during one night, but afterwards occurred naturally. The epigastrium grew very sensitive and the face sallow.

After the vomiting ceased, she was fed on teaspoonful doses of Mellin's food and milk, which amount was gradually increased as the stomach bore it. Dejections were obtained by enemata, but caused prostration. She seemed to be gaining slowly but steadily until December 2d, when all the regular symptoms began again without any discoverable cause. She took breakfast at 4 A. M., consisting of ten teaspoonfuls of Mellin's food and one teaspoonful of London beef essence. At 5 A. M., severe colic ensued, and lasted several hours, and then the vomiting, etc., began.

December 3d. Same story of vomiting. Morphine, one quarter of a grain, subcutaneously every three hours. Pulse 68.

December 4th. Pulse 120, and weak. Temperature below normal. After violent attacks of retching there are occasional streaks of red blood in the vomitus. Patient had a few chilly spells.

December 5th. Stopped everything by the mouth. Gave two ounces of milk and two teaspoonfuls of brandy every three hours by the rectum.

December 6th. Vomiting beginning to diminish in frequency. Patient is occasionally flighty in her mind. Menses appeared. Pulse 140, temperature 97° F. The mother says this is the most persistent attack of vomiting that Miss S. has ever had. The longest previous attack lasted fifty-two hours and the patient is already upon the fourth day of vomiting now. She takes five-sixteenths of a grain of morphine every five or six hours, according to her symptoms, this produces sleep for about three hours, when she becomes restless and begins to vomit in about six hours. She does not complain so much of acidity and burning in the throat and beneath the sternum as formerly. She looks very emaciated; the eyes are sunken, hands cool, the tongue is slightly coated. The epigastrium is tender in the median line, but there is no tenderness along the border of the liver. There is no abdominal distension. There is occasional hiccough but not much twitching. Patient does not complain of thirst and asks for nothing to drink or eat.

December 7th. Patient lay like a log with her eyes closed all day. No nausea, no suffering, no talk. Passed her water at 5.30 P.M., for the first time in twenty-four hours. Morphine was reduced during the day. She vomited only once, a mouthful, at 6 P. M.

December 8th. Pulse 130. Lies passive most of

the time. Asked for food once. Can be easily moved. She was fed every three hours with about three teaspoonfuls of prepared milk.

December 9th. Still very quiet and apathetic. Yesterday there was noticed an offensive odor from her body, and it was discovered that her beef injections were becoming putrid. The bowel was also inclined to be irritable and reject the enemata.

December 10th. Took a small amount of milk and Mellin's food by the mouth every fifteen minutes for two hours, and then waited two hours, then food as before; appeared to bear the food well. She was fed continuously by the rectum all this time. Morphine was withheld for nine and one-half hours to-day. Patient then grew restless and cried, and was very excited for a short time.

Up to this date nothing abnormal had been discovered in the urine, though it had been frequently examined. It now began to smell ammoniacal, and contained a sediment of pus, and there was a marked trace of albumen. Her temperature was 98.5° F. It is fair to add that Prof. E. S. Wood analyzed the urine on December 12th and found alkaline. Specific gravity 1022. Sediment of pus, blood, triple-phosphate crystals, muscular fibres, fat, few epithelium cells (bladder or vaginal), and few dumb-bell oxalate of lime crystals. The muscular fibres showed that the urine was contaminated by leakages from the rectum, although the nurse took all possible precautions in collecting it.

December 12th. Urine is growing scanty in amount. Morphine was reduced to one-quarter grain in twenty-four hours.

December 13th. Passed a good night. Took six ounces of milk and Mellin's food by the mouth in twenty-four hours; also about twelve ounces of the same by the rectum; also three teaspoonfuls of brandy in each enema every three hours. Pulse weak, 104. At 1 P. M. pulse very weak, 104. She could not be aroused to reply. She swallowed food with difficulty. Allowed it to run out of her mouth. The breathing was very quiet.

In consultation with Dr. David W. Cheever, we injected one-twentieth grain of strychnine under the skin and gave a brandy and coffee enema.

She sank gradually, and died at 7.30 P.M.

The autopsy was made by Dr. W. F. Whitney, Curator of the Anatomical Museum, Harvard Medical School, who has kindly furnished me the following report:

"*Autopsy*, December 14, 1884, sixteen hours after death. Body of a slight girl, much emaciated, rigor mortis present, and lividity of the dependent parts.

"Skull: Thin, especially from absence of diploë. A slight protuberance on the left side near the groove of the anterior cerebral artery, but no corresponding depression on the surface of the brain. In the right temporal region at one point the dura mater had apparently disappeared and the bone beneath was slightly crumbling, but there was no increased redness about the edges nor any change in the contiguous surface of the brain. Considerable thin, watery fluid flowed from the surface of the brain, and the meshes of the pia were distended with it. Vessels of the pia engorged. Substance of the brain moist and pale, otherwise not abnormal.

"Heart normal in size; valves normal. Muscular substance slightly granular.

"Lungs did not fully collapse. Lower and posterior parts dark and red, distended. Watery fluid mixed with air flowed from the cut surface.

"Spleen small, follicles distinct.

"Stomach: Marked reddening of the inner surface with minute hæmorrhagic points. Mucous membrane very thin.

"Intestine normal in appearance.

"Mesenteric glands normal.

"Liver: Periphery of lobules yellow and opaque. Numerous large, fat drops of varying size in the cells.

"Pancreas normal.

"Kidneys slightly enlarged, firm. Abundant blood in the pyramids. Cells markedly granular, here and there an occasional fatty one. Slight increase of intertubular tissue.

"Supra-renal capsules normal.

"Ovaries: In the right was a cyst as large as a peach-stone, with smooth inner wall. Left ovary elongated, firm, and contained a small corpus luteum.

"Bone marrow normal.

"Diaphragm: Numerous fatty, degenerative fibres. External and internal intercostal muscles extremely granular, striations lost, and every fibre more or less fatty.

"The diagnosis is atrophy of the mucous membrane of the stomach, but this is far from well-marked. A very slight interstitial nephritis, but in itself of little account. The slight œdema of the brain had probably occurred at the very end in connection with the slow manner of death.

"The fatty degeneration of the respiratory muscles is undoubtedly a marked factor in the cause of death. Whether it can be placed as an original cause or one that has supervened on the persistent vomiting, future cases will have to decide."

In this case we have the history of a highly educated young woman, who was very active and prominent in her social circle and in the affairs of her church. She had had no severe diseases since childhood except the one history of the gastric attacks and their associated phenomena. The urine was frequently examined between 1884 and 1886, and always proved normal until a few days prior to her death, when it contained a trace of albumin but *no casts*. Moreover, at that time it was contaminated by the leakage from the rectal injection of albuminous substances. The slight organic change in the kidney, described by Dr. Whitney, was not sufficient to account for the case; moreover, the heart was perfectly normal in size. We should have expected some cardiac hypertrophy if the interstitial nephritis had been extensive or of long duration. Therefore, I have classified the case among those of purely neurotic type. The father of Miss S. informed me that he had suffered with indigestion and gastric discomforts all his life, and that these troubles were especially conspicuous during his youth. An aunt of Miss S. had been an inmate of an insane asylum.

CASE III. Miss Sh., twenty-two years old, dark complexioned. Very active society girl and very devoted to painting. Complained of headache, malaise, and loss of appetite during the spring of 1888. Early in the summer her parents took her to the seaside, and later went with her to the White Mountains. I first saw her on September 19th, when I found her in bed complaining of a severe headache, poor appetite, constipation and weakness. She also had begun to speak of nausea. Her temperature, pulse, and urine were

normal. At first I endeavored to give her stomachic sedatives and regulate her food. In a few days she began to vomit and the vomitings gradually increased in frequency until all efforts at feeding by the mouth were abandoned and rectal enemata of milk and Mellin's food and brandy were used. She was fed exclusively by the rectum for three weeks, but still continued to vomit. The vomitus consisted of a thin mucus stained with bile. After vomiting a short time the patient began to complain of an intense burning along the entire œsophagus and great distress in the epigastrium. This burning was increased by the vomiting and seemed to occasion more suffering than the headache, which was almost constant. She could not bear the light of day and her room was kept dark. She exhibited no mental excitement but was ordinarily calm and obedient. Her abdomen was retracted during the entire attack. She never had any tympanites. Her skin, which at first was soft and velvety, became dry and parchment-like, and she emaciated to skin and bone. Pads were necessary about her body to prevent bed-sores. She also complained of muscular soreness, especially about the neck, and the nurses were obliged to use great care in turning her. She was also tender to pressure over the abdomen. At times her urine was very scanty and was passed only once in the twenty-four hours. It was examined frequently and never contained albumin.

October 4th. I began to give her subcutaneous injections of morphia which was continued until her stomach became quiet. As the vomiting diminished she was fed at first on rice-water and then on small quantities of more substantial food. She gained very slowly, and was not strong enough to be moved to her home until November 15th. At this time a porter took her in his arms and carried her to her compartment in a sleeping-car, as she was not yet able to stand upon her feet. During the ride to Philadelphia that night she began to vomit again, and I was told that the stomach was refractory for several days after reaching home. At present she is well enough to be about, but is not considered as strong as she was before her long illness.

Case IV. Miss D., forty-three years old, very dark complexion, black hair, sallow skin; white of eye clear, however. She has always been subject to bilious headaches. During the summer of 1888 she had an attack of vomiting, which made her very ill for several weeks and necessitated a number of consultations. In the following September I saw her for the first time, and she was still feeling weak. A young niece in her charge was one day seized with convulsions, which were followed in due time by an eruption of measles. The aunt was, of course, anxious and worried about the child for a few days. As soon as the benignity of the measles was established the aunt went to bed. Her appetite left her and the old nausea came back. She did not vomit, but she ate very little for a few days in order to avoid vomiting.

I have had one or two other cases of this type of vomiting, but they presented practically the same features as those described above.

In Sajous' *Annual*, 1888, page 333, Dr. W. H. Thompson refers to two cases in his own practice which resemble my own. He says:

"In this connection the editor may mention two cases of vomiting of intensely acid matters in two female patients, each under thirty years of age, and which exceeded in severity any cases of vomiting that he had ever had to deal with. Both were of highly neurotic families, the first having an insane sister and a dipsomaniac brother; her mother died also in an epileptic fit. The second has a very extensive history of nervous diseases on her mother's side, including three cases of paralysis agitans, and one, an uncle, died of bulbar paralysis. The patient herself is greatly troubled with attacks of pruritus. After every other means recommended for the arrest of vomiting had been unavailingly tried in each case, they both had the affection completely checked by hypodermatic injections of morphia, which, however, had to be repeated in full doses; in one case for two days, in the other for five."

There are certain conclusions to be drawn from the above cases:

(1) All the women whom I have treated for this type of vomiting have been of a *dark complexion;* some of them were pronounced brunettes. I have never had a patient of this class with red hair.

(2) My patients have not been of the ordinary, so-called hysterical temperament. They were all calm and self-controlled, even during the severest suffering.

(3) Feeding by the mouth was abandoned in every case, and rectal enemata were necessary.

(4) None of the drugs which are usually potent in soothing a nauseated stomach were of any avail in these cases. They all seemed to increase the frequency of vomiting, because they necessitated giving something by the mouth. Morphine was the only drug which I have found to be of any service. This remedy I have given subcutaneously, and have regulated the size and frequency of the dose by the exigencies of the case. With patient No. II, the morphine nearly always caused vomiting within two minutes of its administration but no further trouble. This drug not only controls the vomiting but it also abates the other discomforts. I do not know whether it shortens the illness or not. It has seemed to me that this class of cases run their course in spite of all medication until some hidden nervous impulse has exhausted itself. To illustrate, I would refer to a certain type of alcoholic impulse. Some men lead abstinent or temperate lives for months at a time, and then start off suddenly upon a prolonged drunk. They will drink until satiety is obtained, and then they become good citizens again until another alcoholic energy is generated. By conserving the strength, however, morphine may contribute materially toward recovery. Case IV could not take morphine on account of its unpleasant effects, and no other drugs did any good, so she simply lay in bed and vomited until her nerve-centres were satisfied. Her strength was sustained by nutritive enemata.

(5) The vomitus of Cases II and III was very acid, and caused great discomfort along the throat, and particularly beneath the sternum. In Case I the tongue became excoriated and painful, and at one time one side of it was so swollen that the mouth could only be closed with difficulty.

In connection with this hyperacidity it will be interesting to note certain cases of acid vomiting described by Rossbach,[7] and designated *nervôse gastroxynsis.*[8] This trouble affects the upper classes and those persons exposed to great mental

[7] Rossbach: Deutsch. Arch. für klin. Med., 1884, 35.

[8] γαστὴρ — stomach; ὀξὺς — acid.

strain. It comes on in attacks of one to three days' duration, which may be repeated weekly or every month or so. Anger, trouble, excitement, or public speaking may explode an attack. Each invasion begins with a headache, or with a sharp, gnawing sensation in the stomach, which is then followed by headache; the latter becomes very intense during the height of the attack. The acid feeling in the stomach increases, and may be sufficient to prevent sleep. The patient looks pale, and shows intense suffering. There is pain and sinking-in of the eyes. Finally, the vomiting of an intensely acid fluid begins, which irritates the mucous membrane so that the entire throat feels raw in a few hours. Rossbach says that pyrosis has never occurred in any of his cases, and he emphasizes this fact as a differential point in distinguishing gastroxynsis from dyspepsia acida and Reichmann's cases of excessive gastric secretion.

Rossbach says the best treatment for this trouble is to wash out the stomach thoroughly with warm water. As soon as the acid contents are removed, the headache, etc., subside, and the sufferer rapidly returns to his normal condition. If the attack has been progressing for some time, and a large quantity of acid has been poured into the stomach before the lavage is begun, then the recovery is not so rapid, but the washing produces amelioration. If the patient is vomiting vigorously there should be given him a half-pint of warm water to drink after each act of vomiting, and repeat this until relief is obtained.

The acidity of these cases depends upon the excessive secretion of hydrochloric acid, and is independent of the presence of food in the stomach. It should be distinguished, therefore, from the ordinary *dyspepsia acida*, which is a condition produced by an abnormal fermentation of the food, and in which the acids are butyric, lactic, or acetic according to the ingredients of the food.

It is needless to add that the Rossbach type of gastroxynsis is often a symptom of tabes, and may even precede the appearance of other symptoms. Thus Spier and Clark[9] report the case of a young gentleman who "suffered from intermittent attacks of uncontrollable, very acid vomiting, which would sometimes last for weeks, and yet the usual signs of gastritis were not present." The suspicion that his vomiting might be due to tabes was confirmed by the subsequent development of the characteristic lancinating pains and motor disorders. The etiological values, therefore, must be carefully estimated in each case before it can be classified as a pure neurosis.

There is another condition of the stomach which requires mention at this point, and that is gastrosuccorrhea or the hypersecretion of gastric juice, which was first described by Reichmann.[10] The first case observed by him was a young man, twenty-seven years of age, who was very anæmic, emaciated, and weak, but he had no organic disease of the nervous system. Every afternoon he was seized with severe cramp-like pains in the stomach, which increased during the night, and spread over the entire abdomen. The cramps prevented sleep, and caused an expression of great suffering on the face. There was no distention of the abdomen, and *no vomiting*, but the patient was troubled with pyrosis, great thirst, and an increased appetite. Upon washing out this man's stomach Reichmann always found a large amount of very acid secretion, whether the stomach was empty or full of food. To test the amount of the fluid thus secreted, Reichmann pumped out the man's stomach late in the evening, and washed it clear of everything; then the man took no food or fluid into the stomach until the next morning, when the washing-out was repeated. This experiment was tried four times, and on each morning the stomach contained from 180 to 300 cubic centimetres of a fluid which was very acid, more or less green, and nearly translucent. This fluid was evidently rich in pepsin, as it digested albuminoid matters very rapidly, but the amyloid foods remained undigested. After a breakfast consisting of one cutlet, 250 grammes of milk, and 250 grammes of water, the stomach was pumped out in the third hour, and contained one and a half litres of a dirty-looking fluid, which had an acidity of 0.28 per cent. After an ordinary mixed meal the evacuated contents of the stomach presented a very characteristic macroscopic appearance. The albuminoid ingredients had all been dissolved, while the mass was full of large starch remains, pieces of bread, etc. Riegel[11] says:

"I must emphatically recommend the simple observance of the pumped-out mass, and especially of the filtrate, the importance of which has never before been pointed out. The appearance of the mass will often, without further chemical examination, furnish conclusions as to the digestive power and nature of the secretory disturbance."

This type of hypersecretion of the stomach occurs in two forms: in some patients it comes on periodically, and is then usually associated with some nervous diseases; in other persons the condition is chronic. Jaworski[12] has collected 48 cases of this chronic type in 222 gastric patients, while Ewald has met it 15 times among 600 gastric cases. The best treatment for this complaint is daily lavage, which is usually very gratefully appreciated by the patient.

In studying this subject I have discovered that there is one factor which is common to all the cases described in this paper, and which is the keystone to all the suffering and misery which befall the poor victims of these functional derangements. We notice, namely, that the description of each case of vomitus nervosus, gastroxynsis, and gastrosuccorrhea is accentuated by the excessive amounts of hydrochloric acid present in the gastric secretions.

The standard acidity of healthy gastric juice is placed at 0.2 per cent., though it may vary five hundredths of one per cent. each side of this without harm. Rossbach, however, reports one case in which the acidity was 0.416 per cent., and in two others it was 0.334 per cent. In Reichmann's cases the acidity was 0.25 per cent., 0.27 per cent., 0.28 per cent., and 0.32 per cent. In my own cases no estimate of percentage was made, but the acidity was so great that it caused intense burning of the œsophagus, fauces, and tongue, and this burning was often the chief complaint of the patient. In my first case of anorexia nervosa I was unable to obtain any gastric secretion; but, inasmuch as the tongue was extremely clean and red, and the patient complained of canker, I suspect the gastric acidity must have been above the normal standard.

Leube made no mention of this point in connection

[9] Sajous's Annual, 1888, p. 33.
[10] Reichmann: Berl. klin. Wochenschrift, 1882, No. 40, and 1884, No. 2.
[11] Riegel: Zeitschrift f. klin. Med., 1886, p. 1.
[12] Jaworski: Wien. med. Wochenschrift, 1886, p. 1673.

with his cases of dyspepsia nervosa, but this defficiency of evidence has been recently supplied by Wiessner,[13] who made a special study of nervous dyspepsia in the wards and laboratory of Prof. Leyden. He found that all such cases presented high degrees of acidity. He reports instances of 0.29 per cent., 0.40 per cent., and 0.312 per cent., and he concludes his thesis as follows:

"In *nervöse dyspepsie* the motory function of the stomach is intact. The secretory function is abnormal to the extent that a notable HCl hyperacidity is demonstrable during the entire process of digestion."

Jaworski,[14] in an article upon gastric symptoms, namely; objective findings, gives his deductions from the examination of several hundred stomachs in health and disease, and he has evidently reached conclusions similar to mine concerning the influence of hyperacidity in gastric troubles. He lays down the following suggestions:

(1) In great anæmia, and even cachexia with idiopathic gastric trouble, there is a probability of a hyperacidity of the gastric juice.

(2) Vomiting usually occurs with those who have no deficiency of hydrochloric acid.

(3) With great sensitiveness of the epigastrium to pressure, deficiency of hydrochloric acid is not probable.

(4) Excessive thirst points to hyperacid secretions, and is generally combined with mechanical insufficiency or gastric ectasy.

(5) Cramps indicate acidity.

(6) Gnawing at the stomach and false appetite denote acidity.

Arrived at this point, we are met with great difficulties in our study of the physiological mechanism of these cases. We know practically nothing about the specialization of the nerve supply to the stomach. Schiff thinks that sensory nerves run to the stomach through the vagi, because if these trunks are cut one can abuse the pylorus, which is ordinarily the most sensitive part, without the animal showing pain. It is also possible that sympathetic branches from the cœliac plexus also convey sensory fibres to the stomach. We know, however, that the stomach is sparingly endowed with sensory nerves. Its temperature perception is imperfect and localization is very indefinite. If a sound is introduced it is felt in the œsophagus along the thorax, but it is hardly perceived when it touches the inner surface of the stomach. The organ may even be mutilated without much discomfort to its possessor. A case is reported where a piece of the mucous membrane was caught in the eye of the pump and was brought away, but the patient only felt a sense of pulling; the pain was unimportant, and ceased in a few hours. Oser[15] says, "The healthy stomach has properly only two perceptions: the feeling of hunger and the feeling of satiety." Pathologically the sensitiveness of the stomach may be intensely aggravated. What nerves stimulate and what ones inhibit the secretion of the hydrochloric acid, pepsin, mucus, etc., is simply a conjecture. No more do we know the special nerves which govern the rhythmical sequence of the muscular churning, or which dilate the pylorus, or hold it in cramp-like closure. Some physiologists have thought that they could stop all gastric secretions by section of the vagi, but later observations have demonstrated that such section may produce a temporary slowing of the secretion of pepsin and hydrochloric acid, but no obliteration of the same.

We can only say from our present standpoint and by reasoning from analogy, that the secretion of hydrochloric acid in the stomach must be governed by a special system of nerves which have a definite centre of departure. Like other similar systems, these nerves appear at times to become functionally deranged, and perform their work with a reckless disregard of the comfort of their possessors.

[13] Wiessner: Diagnostische und therap. untersuch. u. d. nervöse Dyspepsie. Inaugural Dissertation. Berlin, 1888.
[14] Jaworski: Wien. med. Wochenschrift, 1886, p. 1873.
[15] Oser: Die Neurösen das Magens, 1885.

ASEPTIC SURGERY.[1]

BY H. L. BURRELL, M.D., AND G. B. TUCKER, S.B., OF BOSTON.

THERE is hardly a subject of greater practical interest to surgeons than Aseptic and Antiseptic Surgery. Like all principles of great importance it has passed through many changes; hot-tempered advocates have claimed too much, luke-warm opponents have belittled it.

It seemed to the writers that a contribution of an experimental inquiry into the practical value of the many details that have been introduced in this work would appropriately open the subject for discussion. Surgery has had come to its assistance the science of Bacteriology, and the information which it has furnished and will continue to furnish must greatly aid in the work of practical surgery.

The plan of work which we shall suggest may be changed as new information is contributed, but never will the full benefit of bacteriological science be realized until schools of medicine educate their students in this collateral science and surgeons become familiar, not alone with the principle, but the detail of the work.

The primary aseptic healing of wounds, prior to the advent of antisepsis, was by no means an unheard-of thing. Surgeon after surgeon would boast of how quickly his wounds healed. Fortune favored him by excluding or destroying the germs, no matter what dressing was used. Now came what he considered a new dressing, which he was loath to use from being an innovation. One detail after another has arisen, withstood the crucial test of experience and satire, and again subsided; this will continue, but beneath this evolution of a method that has the fault, as we were told by a prominent practitioner, "of being so complicated and changeable that no one can follow it," rests, as the foundation which has never been shaken, the principles of asepticism and antisepticism; the fact, that pus in a wound means infection by germs and putrefaction. Although it is inevitable that further changes must take place in the development and application of the principle, we have attained surgical possibilities not dreamt of by our predecessors.

It is, of course, well recognized that a surgeon to-day should start with his instruments and materials aseptic, and yet how rarely do we see the surgeon and his assistants carry through an operation to the end aseptically. Constant vigilance and a thorough belief in the necessity of attention to little details is the price of gaining aseptic healing.

The principles of asepticism and antisepticism are perhaps well recognized, but it is the belief of the writers that only in a partial way is it appreciated that

[1] Read at the annual meeting of the Massachusetts Medical Society, June 11, 1889.

sources of contamination exist in operative work in every detail. If one wishes to have this success, he must believe.

Some of these sources we shall attempt to demonstrate.

The labor which would have been necessary to identify species in this work would have been stupendous; the sole idea influencing us, has been to find out whether each detail of the work would stand a bacteriological and clinical test.

The following details will be presented:

The Preparation of the Room for an Operation.

The Toilet of the Surgeon and Assistants.

Preparation of the Operative Field.

The Disinfection of Instruments.

The Disinfection of Sponges, Ligature, and Suture Materials.

Irrigation.

Dressings.

I. PREPARATION OF THE ROOM FOR AN OPERATION.

The subject of micro-organisms in the atmosphere is at the present time receiving considerable attention, and it has been found that their presence in the air of a room depends on the numbers present in the room itself, and that their absence is a measure of cleanliness.

This naturally calls for rooms which may be rendered bacteriologically clean. These are being provided in the newer hospitals.

A room filled with micro-organisms may be a source of infection, and to the private practitioner, who is liable to be called upon at any moment to do a laparotomy in the homes of the wealthier classes or the hovels of the poor, the preparation of the room is a matter of some importance. Directly bearing on this subject may be cited some experiments by one of us on the air of the Boston City Hospital.[2]

It was found that in a series of "Night experiments" conducted in the wards of the hospital, that the air, when the room was free from any commotion, was also practically free from micro-organisms. In another series of experiments, entitled "Before and after Sweeping," it was found that after the first sweeping a large number of micro-organisms existed in the air; on allowing these to settle out and again sweeping, the numbers found in the air were comparatively small; after the third sweeping, very few micro organisms were found. As Carnelly has aptly put it, "a room is a trap for micro-organisms," from which they can only be removed mechanically by the ordinary and extraordinary means of cleaning.

The practical application of these experiments is self-evident. The less commotion that exists in a room, prior to and at the time of an emergency operation, the better. This is quite apart from the usual housewife's custom. The removal of dirt from a room before an operation, would be considered a matter of great importance, but really by sweeping, dusting and the removal of furniture we put the micro-organisms into the air, and thus render our patient liable to infection. Where time can be allowed for the preparation of a room, it should be freed from all movable objects, thoroughly swept, dusted, its floors mopped, walls sponged and only the necessities of the operative procedure allowed to be present in the room; in short, it should be freed from dirt.

[2] Massachusetts State Board of Health Reports, 1888.

In case of an emergency operation, nothing should be disturbed.

II. TOILET OF THE SURGEON AND HIS ASSISTANTS.

The most scrupulous care should be exercised in providing for cleanliness of person and clothing. From our standpoint all that is necessary to consider under this subject is the question of, "How shall the surgeon clean his hands?"

The following experiments were undertaken:

A man's left hand was selected, the nails cut, cleansed, the hand vigorously scrubbed with soap and water, washed with ether and immersed in a 1 to 1,000 solution of corrosive sublimate; it was kept immersed for one hour, removed from the sublimate bath, washed with sterilized water and a layer of gauze placed on the front and back of the hand. These were saturated with sterilized, nutrient gelatine, and over this was applied an aseptic dressing. The man's right hand was then cleansed in the way a surgeon often does before an operation, that is; by cleaning the nails of all visible dirt, scrubbing the hand with soap and water and immersing it for a moment in 1 to 1,000 corrosive sublimate. It was rinsed with sterilized water and treated similarly to the left hand. A half hour later these dressings were removed and cultures made.

The left hand, which had been cleansed in an extraordinary manner by soaking in corrosive sublimate for one hour, was found to be absolutely sterile. The gelantine from the right hand, which had been cleansed in the ordinary superficial way, showed colonies of bacteria, that from the back of the hand being completely liquefied, while that from the front of the hand was peppered all over with colonies.

The result was striking, and demonstrates that the ordinary method of cleansing the hands is ineffectual.

In this connection nail brushes were examined as an almost certain source of contamination in providing for an aseptic operation. Three brushes were taken which were used for general purposes. Bristles were snipped off from various parts of these brushes and cultured; all of them were contaminated with bacteria and moulds. As a remedy, it is suggested that hand brushes should be thoroughly cleansed after an operation and kept immersed in a 1 to 1,000 solution of corrosive sublimate.

The result of the experimentation on hands is certainly striking.

It has long been recognized that corrosive sublimate will destroy all germs in a few minutes, and it certainly is possible, as the above experiments show, to gain asepsis of the hands if the surgeon or his assistants will take the time to gain it.

The superficial manner in which hands are treated is not fair to aseptic work. If it is to be done at all, it must be well and carefully done. The result will follow.

III. PREPARATION OF THE OPERATIVE FIELD.

Wounds, to-day, should heal without pus; and one of the most important aids in obtaining this result, is to render the surface of the skin sterile previous to an operation. Here the fact should never be lost sight of that we have a living human organism to deal with, and not an inanimate object.

A patient approaches an operation with fear which is more or less controlled. Therefore unnecessary de-

tails of preparation, which may alarm his mind, should be banished. Proper protection should be taken for a rapid and effective operative procedure. Shock, that well-recognized, but not clearly understood phenomenon, must always be borne in mind, and the patient should be kept warm and dry by suitably arranged rubber cloths. The operative field should be thoroughly cleansed by soap, water, shaving, ether, sterilized nail brush, corrosive sublimate — 1 to 1,000 — and the mechanical removal of dirt, that is, asepsis of the operative field obtained.

If it is possible to render the hands of the surgeon free from germs, it is equally possible to render the operative field sterile. So, in a measure, the experimentation has demonstrated that sterilization of the skin is simply a question of care and time to be exercised by the operator in cleaning his operative field.

The following experiment was undertaken. The house-surgeon at the hospital kindly prepared a forearm antiseptically, as if it were to be operated upon, in the following manner:

The arm was cleansed with water, shaved, washed with ether, rubbed vigorously with a brush wet with 1 to 1,000 corrosive sublimate, and an aseptic absorbent dressing was applied. This was removed on the fourth day and the successive layers after culture were found to be germ free. This shows that it is quite possible to render the surface of the operative field sterile. But it must be remembered that, while it is possible to remove and to destroy any micro-organisms that may rest on the outer surface of the skin, yet in its follicles, and possibly in its deeper layers, micro-organisms may exist which may be beyond our reach.

As has been said, the human organism may be considered as a vast, antiseptic machine, in which there is a constant conflict, as was pointed out by Virchow, between the cells and micro-organisms. If it were not for this power of the living body, we should cease to exist. The destruction or inhibition of the cells gives to the micro-organisms an opportunity to gain the ascendency. Destruction of the tissue, putrefaction and pus-formation are the results.

The question whether wounds remain sterile after an operation will be considered under dressings.

IV. STERILIZATION OF INSTRUMENTS.

Surgeons have long recognized that instruments are a source of contamination in operations, and while it is customary for the operator to see that his instruments are clean and immersed in carbolic acid, yet this portion of the field of aseptic work has not, in the minds of the writers, received due consideration.

Let us present to you the condition in which we found instruments in a well-ordered hospital, where they were kept in glass-covered cases.

Instruments were taken at random from the operating cases and were cultured with the following results.[3]

Black Handled Scalpel	Hundreds of Bacteria.
Keyes' Director	Completely liquefied.
Ivory Handled Scalpel	Colonies, many hundreds.
S. Curved Catheter	Colonies, many hundreds.
Bull Dog Forceps	Complete liquefication.

A pocket-case of instruments was borrowed from one of the house officers and cultures were made of four instruments. The result was not unexpected. They were found to be covered with germs.

These instruments were not alone non-sterile, but the colonies found were multitudinous. This is the condition in which instruments exist, and what means have we for remedying this difficulty?

The following experiment sheds light on the subject. Instruments were taken from a dish, from which they were about to be used by a surgeon for an operation; they had been cleansed and soaking for an hour in carbolic 1 to 40. The following were the results:

Burr Drill	Bacteria, two.
Metal Handled Knife	Badly liquefied.
Dissecting Forceps	Completely liquefied.
Trocar	Badly liquefied.
Aspirator Needle, prepared for use by ward-master. Needle immersed in 1 to 20 carbolic	Bacteria, two.
Grooved Needle	Bacteria, one.
Bull Dog Artery Forceps	Blank.
Chain Saw	Blank.

Bacteriologically, the instruments from carbolic were nearly as badly off as those that had been untreated.

Unfortunately corrosive sublimate, which is our most valuable germicide, is destructive to instruments, and it was hoped that in hydronaphthol, which is not harmful, we should possess a means of perfectly sterilizing instruments. It was found, however, with instruments which had been placed in an alcoholic solution of hydronaphthol — 1 to 500 — that the knife which remained in one hour was sterile. The bull-dog forceps that remained six hours gave liquefaction from the germs. This was a disappointment, for hydronaphthol ranks high as a germicide, and the desideratum of the surgeon is a fluid which shall quickly sterilize his instruments before an operation.

We have, however, certain methods of sterilization that have long been used in bacteriological laboratories, and have been found efficient for their work, namely, *heat dry or moist, interrupted or continuous.*

Interrupted sterilization, leaving intervals for the spores to develop, is bacteriologically a certain method of sterilizing instruments. But, unfortunately, it is impracticable for practitioners.

Continuous sterilization is quite effectual, and the following experiments of boiling, steaming and baking are interesting.

Instruments were *boiled* continuously in water for two hours and were then cultured, with the following results:

Bull Dog Forceps	Bacteria, none; Moulds, two.
Bull Dog Forceps	Blank.
Metal Handled Knife	Blank.

This experiment shows that in boiling we have a fairly efficient means of sterilization: but it is a well recognized principle in bacteriology that boiling, unless it is interrupted, is not an absolute means of sterilization.

As three instruments in the above experiment were about to be cultured after boiling, they fell upon the floor. The result is interesting, and is as follows:

One Director fell on the floor	Bacteria, one; Moulds, eight.
Grooved Needle " "	Bacteria, five; Moulds, twenty-two.
Probe " "	Complete liquefaction.

In each instance in which the instrument fell on the floor, micro-organisms were found to be present in large numbers. The lesson is self-evident.

[3] In all cases where the term "liquefaction" occurs in this paper, we mean the presence of species (often putrefactive) which have the power of rendering solid nutrient gelatine permanently fluid.

The effect of sterilization by *steam* was next tried: Instruments were taken from a dish of 1 to 40 carbolic, after they had been used in an operation, sterilized one hour in a steamer and cultured. The results were as follows:

Bull Dog Forceps	Blank.
Wooden Handled Needle	One Colony, liquefied.
Large Probe	One Mould,
Small Probe	Blank.
Bull Dog Forceps	Blank.
Dissecting Forceps	Blank.
Director	Blank.

Again, six instruments were taken from the operating case, and steamed one hour. All showed occasional moulds; several showed colonies of bacteria.

This result is not satisfactory, and shows that the instruments were not perfectly sterilized by steaming.

Superheated steam was not experimented with, but it is claimed by competent observers that it is a rapid, certain method of obtaining perfect sterilization.

Baking was next tried, and while it was clearly recognized before experimentation that heat at 160° C. for a few hours gives certain sterilization, yet doubt was entertained as to the fate of delicate instruments.

Instruments were taken, wrapt in gauze, enclosed in a tin box, placed in a sterilizing oven and baked for one hour at 130° C. All instruments were found to be sterile. Again a number of instruments were taken with similar precautions, and baked at 160° C. for two hours. All were found to be sterile. In not an instance was an instrument injured by the heat.

The sterilization of instruments by heat requires intelligent supervision, and unless this is furnished, and the temperature is not allowed to rise above 150° C., instruments may be injured, as has been found when needles have been baked at a higher temperature.

Conclusions.— Until a proven certain, ready method of sterilizing instruments is presented, the baking of instruments, under the above precautions, at 150° to 160° C. for one hour, is recommended by the writers as a certain method of sterilization. The experimentation with hydronaphthol was not sufficient to invalidate its claimed advantages.

A large number of *needles* were cultured and found to be badly contaminated,— an average of fifteen bacteria per needle being found. This led the surgeons at the Boston City Hospital to discard needle-books, and all needles are now sterilized by baking in short test tubes plugged with cotton-wool for one hour at 150° C. After sterilization the test-tubes are kept, for better protection, in woodern boxes.

V. DISINFECTION OF SPONGES, LIGATURE AND SUTURE MATERIALS.

(*a*) *Sponges.* — Many operators have discarded sponges from operations, and use instead irrigation, or sterilized, absorbent gauze. This has been due to the difficulty experienced by practitioners in securing thoroughly clean sponges.

The sponges at the Hospital are thoroughly washed in running water, again and again, until all visible dirt is removed; they are then placed in a solution of permanganate of potassium, and allowed to remain about twelve hours; they are again washed in water and then immersed in a solution of oxalic acid, for a few hours.

This procedure not alone bleaches the sponges, but renders them very soft; after washing they are stored for use in a series of large stone-ware jars containing a solution of 1 to 40 carbolic acid, from which they are used in rotation.

Cultures were made from four sponges, just ready to be used in an operation. Three of them were sterile; one showed several colonies of bacteria and moulds. It was hoped that steaming sponges would completely sterilize them. A half-dozen bleached sponges were taken, enclosed in gauze, and steamed for one hour. On their removal, it was found that the sponges had shrunken to one-fifth their original size, were hard as chips, and on placing them in water their absorbent power was found to have been completely destroyed.

Bleached sponges were immersed in 1 to 5,000 hydronaphthol and kept for forty-eight hours. Cultures were made of these sponges and they were found to be sterile.

The treatment of sponges by prolonged immersion in carbolic solution, as above recommended, or a solution of hydronaphthol, seems to be the best method at present at our command. It is, of course, a matter of considerable importance to be able to have sterile sponges, and it is believed that while the above method gives this result, in certain operations, for instance laparotomy, it is better to use Elliot's absorbent sponges, which are made by taking a small hank of Berlin worsted, doubling it on itself, and enclosing it in a gauze covering. Thus prepared they may be kept for use indefinitely, and readily sterilized in a corrosive sublimate solution.

(*b*) *Ligature and Suture Materials.*— There is a current opinion prevailing among surgeons that catgut is difficult to sterilize. In almost every journal we are told of a new method for its sterilization.

A great deal of difficulty had been experienced from time to time, in the use of catgut, in the formation of stitch abscesses, and the following methods of preparing silk and gut were put to trial: —

The original silk is boiled for one hour and then wound off on glass spools, with sterilized hands, and kept immersed in a 1 to 1,000 alcoholic solution of corrosive sublimate.

The catgut is prepared in the following manner: —

It is taken from the original bottles, which are filled with carbolic oil, washed thoroughly, the fat extracted with ether, and then with sterilized hands it is wound on to glass spools and immersed in a 1 to 1,000 alcoholic solution of corrosive sublimate. Both silk and catgut are kept for a long time on the glass spools immersed in the alcoholic solution of corrosive sublimate. When needed for use, they are removed from the jar and placed in a ligature bottle specially devised for the purpose.

The original catgut, as taken from the carbolic oil was cultured and found to show organisms in every case.

Eleven specimens of silk and gut were taken from their ligature bottles. The silk was found to be perfectly sterile, while the catgut was found to have growths on all except the smaller sizes.

It is difficult to understand how germs can live that have been immersed in an alcoholic solution of 1 to 1,000 corrosive sublimate, but it is suspected that the hardening of the catgut, prior to complete sterilization, shuts up within the substance of the gut a certain number of organisms, which remain latent until they

are placed in living tissues, when the catgut swells, the germs are set free and stitch abscesses result.

Reverdin[4] reports a series of experiments in reference to the sterilization of catgut. He found that crude catgut, which had not been kept in fat to preserve it, which was exposed for four hours to a constantly increasing temperature, maximum 140° C., and then placed for a day in oil of juniper and kept in alcohol, was aseptic. This he had used clinically for eighteen months with perfect results.

V. Boret[5] has cultured the catgut preserved by Reverdin in bouillon, glycerine and sugar at different temperatures, and found that there was no reaction at the end of six weeks. Boret has tried the other methods of sterilizing catgut, and found that bacteriologically and clinically they failed.

Conclusion. Small catgut was found, as ordinarily prepared, to be always sterile; large catgut, never. Silk always sterile.

As catgut is too valuable a material to be discarded, the writers would advise the method of Reverdin by heat, which is bacteriologically a good one.

There is no trouble about sterilizing silk.

VI. IRRIGATION.

The operator of to-day considers that, after using sterile instruments and materials in operating, at the end a flushing off of the operative wound with a germicidal solution is all that is necessary.

For ordinary purposes a 1 to 2,000 solution of corrosive sublimate is efficient for the sterilization of a wound before operation. 1 to 10,000 should be used during and after an operation. Great care should be exercised that none is retained within the wound.

For hydronaphthol, is claimed by competent observers, excellent results; but of this the investigators do not feel competent to judge. We would suggest, however, that taking high rank as it does, as an active germicide, and being non-poisonous and non-irritating, it deserves a trial.

Irrigator nozzles were suspected as a source of contamination. Four glass irrigator nozzles were taken from their rubber tubes and cultured. Two were sterile and two were non-sterile; one of these showed five colonies of bacteria.

Conclusion. Irrigator nozzles should, therefore, be kept unattached and immersed in a 1 to 1,000 corrosive sublimate solution ready for use.

VII. DRESSINGS.

Some specimens of *rubber drainage tubes* were taken from the jar, in which they had been kept immersed in a solution of 1 to 20 carbolic acid, and cultured. They were found to be sterile.

Wounds, to-day, may be divided into aseptic and septic. Operative wounds, if properly treated, are aseptic; accidental wounds, more or less septic. For these two classes of wounds, two distinct dressings are necessary — aseptic and antiseptic.

At our command, we have, on the one hand, antiseptic dressings, such as carbolic, corrosive sublimate, iodoform and boracic acid. On the other hand, aseptic baked dressings.

In the Boston City Hospital boracic and iodoform gauzes are the antiseptic dressings used.

Baked dressings are the aseptic dressings used.

[4] Rev. Med. de la Suisse Rou, June, July and August, 1888.
[5] Ibid.

Samples of these dressings were cultured, and the antiseptic dressings were found to be non-sterile; the aseptic were found to be sterile.

The credit of introducing baked dressings, at least in this community, is due to Dr. H. C. Ernst, who, a number of years ago, suggested their trial at the Massachusetts General Hospital.

At the Boston City Hospital they are prepared in the following manner: —

Circular tins of various lengths and diameters, with long, close-fitting covers, are filled with bleached gauze cut into suitable sizes. These cans are placed in a sterilizing oven, and are baked at 150° to 160° C. for several hours.

Clinical experience with baked dressings has shown that they are quite unabsorptive. This is an objection, for what surgeons need is a sterile, absorptive dressing.

Of course an aseptic dressing prepared by steam is not open to this objection, but it is believed that the difficulties in preparing aseptic dressings by the method of steaming and the method of their protection after sterilization, are such that the baked dressings are more practical. We have overcome the non-absorptive quality of the baked dressings by saturating gauze with a 10% solution of glycerine, drying and subjecting it to sterilization.

The presence of the glycerine in no way interferes with sterilization of the gauze at from 150° to 160° C. The result being a *perfect aseptic, absorbent gauze.*

A piece of ordinary baked gauze floats on water, while a piece of the aseptic absorbent gauze will immediately sink to to the bottom.

Dressings were removed on the fourth day from wounds which had been dressed with iodoform and boracic acid gauze. The inner layers of the dressings were found to be thickly peppered with bacteria, and the successive layers outward contained less and less.

It was found by experimenting with baked, aseptic dressings, which had remained in contact with a wound for anywhere from one week to a month, that the inner layers of the dressing, although the wound had healed completely without pus, were filled with bacteria.

Cultivating the successive layers of the dressing from the skin outward, it was found that No. 1 layer, which rested directly in contact with the skin, had a large number of germs. No. 2 fewer. No. 3 still less. Nos. 4, 5 and 6 still less. In the outer layers were found occasional moulds.

The presence of germs in the inner layers of these dressings was unexpected.

Where these germs come from, is not clear. They do not come through the dressing from the outside atmosphere, for it has been found that when the surface of the skin was sterilized, as if about to be operated upon, and an aseptic dressing was applied, it remained perfectly sterile, inner layer and all, at the end of four days. (*Vide* experiment operative field, page 329.)

If the germs do not come from outside sources through the dressing, they must come from sources beneath the dressing.

In antiseptic dressings there are a number of reasons why this result may be expected: First, the antiseptics which are incorporated into dressings, with the exception of corrosive sublimate, are not germi-

cides to be depended upon. Second, that they will inhibit the growth of germs is well known, but existing in the gauze as they do in a dry state, and too often in insufficient quantities, they are not in a condition to gain the results that otherwise might be expected.

The deductions to be drawn from the above are very evident:

Where an antiseptic dressing is indicated, we should have in contact with the wound a moist, absorbent dressing, charged with an active germicide in sufficient quantities to be efficient.

This is probably best gained by applying a moist dressing containing glycerine, and charged with corrosive sublimate.

It must be understood that no attempt has been made to identify the germ, found beneath the dressings, *but, it can never be assumed* that the mere presence of bacteria is necessarily harmful until their pathogenic origin is demonstrated.

From clinical experience it has become evident to the writers, that with clean wounds in baked dressings we possess a very valuable dressing. They have been used at the Children's Hospital, in this city, for nearly two years, and by one of us, almost exclusively in our service, as surgeon to out-patients at the Boston City Hospital, and again for four months at the Carney Hospital. They have been used in one of the ward services of the Boston City Hospital for four months, and all have felt that the results were excellent.

Conclusions. — This experimentation teaches the important lesson, that, while it is a difficult thing to attain *absolute* asepticism, yet *practical* asepticism may be gained *by attention to details.*

That we have presented to you a practical way of sterilizing hands, an operative field, the instruments, ligature and suture materials and dressings.

That clinical experience, the touchstone of experimentation, strongly testifies to this, that although an operation cannot be made a bacteriological experiment, yet in the details of the antiseptic dressing of wounds, the principles of aseptic and antisepticism should be carefully borne in mind.

That thorough cleanliness is a preventive of sepsis.

That germicides well applied, in sufficient quantities, will inhibit the development of septic germs.

That the surgeon *can* and *should* operate with thoroughly cleansed hands, thoroughly cleansed instruments, upon a thoroughly cleansed patient.

ON PAIN IN THE SMALL OF THE BACK AND THIGHS.[1]

BY JOHN A. JEFFRIES, M. D., OF BOSTON.

A considerable number of patients complain of pain in the back, or hips, the pain being the leading symptom, often the only one of which the patient is aware. This class occurs in all forms of practice, but tends to collect in the departments for nervous diseases of our hospitals and dispensaries. Owing to the paucity of symptoms and the importance of the diseases represented by these patients, they seem worthy of consideration. I shall endeavor to follow out the steps in diagnosis and point out certain parts of treatment, more especially methods chiefly practised by neurologists.

Naturally the diagnosis is one of differentiation from myalgia or neuralgia. The difficulty rests in the fact that pain in the nerves is merely a symptom, and may be the only one, of the most diverse complaints. Therefore, the only feasible way is to divide the area into parts, and examine them *seriatim* for hidden disease, arriving at a diagnosis of myalgia or neuralgia by exclusion. It is my custom to make the following division:

The spinal column:
Its contents.
The muscles of the spine.
The hip-joint.
The nerves of the lumbar region.
The nerves of the hip.
The kidneys.
The ovaries or testes.
The uterus.
The descending portion of the colon.

The distribution of the pain is of great importance in making a start. It may be diffuse, or run in tracts, or appear at isolated points along the course of a nerve. If diffuse the patient will probably use the flat of the hand in pointing out its place; if local the finger-tips. In character the pain may be constant, intermittent, or paroxysmal; in nature, dull, sharp, shooting, gnawing, burning or throbbing.

Neuralgias, or nerve pains proper, have certain distinctive features. They follow the course and distribution of one nerve or of more than one. The pain may be referred to the terminal fibres, the nerve trunk, or both; or now to one, now to the other.

The pains are not steady but paroxysmal, and often dart in lines up or down. They also tend to spread during the time of most intensity.

The pains are not markedly increased by motion unless it produces increased pressure or stretching. They are often accompanied by paræsthesiæ.

The nerve trunk is generally tender, a condition most easily found at the points of exit — the tender points of Valleix.

The spines over the roots of the nerve are usually tender — tender spines of Trousseau.

There are often small patches of skin, usually near the points of exit, where the intensity of sensibility is increased. A touch produces intense pain, the Faradic brush cannot be borne, a small coin at the temperature of the room may produce a shiver.

Flushing or paleness of the painful part is not rare; also, as Nothnagel has pointed out, there may be a certain amount of anæsthesia not only of the painful region but of the whole half of the body. Some impairment of motion is the rule.

Besides the characters of nerve pains, with few exceptions, but little value can be attached to the description given by the patient.

What constitutes pain, its essence, is unknown; neither the physiologist nor pathologist has yet given an answer. It is clear that the final result must be referred to the higher perceptive centres of the brain; but pain in the periphery rarely arises from disease of the brain. Many authors, as Gowers, has advanced the theory that idiopathic neuralgia is due to a discharge from the ganglionic cells of the spine. The origin of these pains, however, must be classed among the unknown; and for practical purposes, in dealing

[1] Read at the Annual Meeting of the Massachusetts Medical Society, June 12, 1889.

with this subject, it is much better to assume a definite lesion or source of irritation of the nerves. In a considerable percentage of cases of neuralgia of this region disease of the nerves has been found; in the remainder, the so-called idiopathic cases, there is usually a personal, often a family history of some taint, which it is more natural to regard as cause than result, and which may act in the periphery where it appears to, rather than in the cord. Very likely both are at times affected.

The question of reflected pain is probably closely connected with the origin of idiopathic pain. The theory, now undergoing constant extension, is that local trouble, as of the stomach, can produce reflected pain in a distant part, as the head. It is, however, only a theory and does not rest on evidence: all sources of a general cause for both must be excluded before the theory is accepted. I have lately shown, in at least one case, that the blood is altered in such a way as to leave plenty of room for local action.

Beside the group of so-called reflected pains there is another small group where the pain is apparently referred to a wrong part, simply as the result of lack of training. We must not forget that the child seems to practice and to learn by study the sources and interpretations of many of its sensations.

But passing from the nature of pain to its significance — all cases of pain in the region selected may be divided into two classes: the nerve pain and the diffuse pains.

The diffuse pains are due mostly to myalgia, and belong to the group of lumbagoes. If the pain is in the right side of the small of the back the probabilities are that we have a case of lumbago, so-called muscular rheumatism, before us. This probability becomes almost a certainty if there is a history of exposure or trauma, diffuse tenderness of the long muscles of the spine, or of the quadratus lumborum, increased by stooping, and no tender points or cutaneous hyperæsthesia. Under these conditions it is difficult to make a mistake, though the patient is often convinced that he has kidney trouble. Neuralgias are excluded by the absence of the characters of nerve pains. Disease of the internal organs causes bilateral pain, with few exceptions.

Trouble in or about the kidney must, however, be excluded. If inflammatory, there are the fever, deep tenderness best got from in front, and deep boggyness or fluctuation. With a reasonable amount of care in the physical examination danger of a wrong diagnosis is small. The only other trouble liable to lead to confusion is that state of dull pain in the region of one kidney due to local irritation as from a calculus. This pain closely simulates lumbago, but is not so dependent on flexion and extension of the spine; is said to be very sensitive to slight jarring motions as of riding. Inquiry may bring out a history of acute pain due to renal colic, which finally settles the diagnosis.

On the left side all that of the right side holds good, except that we have also to consider the pain resulting from fæcal accumulations near the junction of the transverse and descending portions of the colon. Such accumulations are common, and give rise to more or less pain usually located near the lower left free ribs. Tenderness is less marked than in lumbago, and the pain is relatively but little affected by stooping. The diagnosis may be confirmed by palpation, the patient lying on the back with the thighs flexed. A regular motion of the bowels does not preclude this condition.

When the pain is in both sides of the back the diagnosis is more difficult, and it is always necessary to examine the whole of the region. The bones of the spine should be carefully examined for undue yielding to pressure, for tenderness and irregularities of form. The line and curve of the spine should also be examined, while the patient is stooping, for irregularities, and any signs of rotation noted. If the spine passes muster it is probably sound. Slight or even marked irregularities of the spine are often the result of occupation, and of course found in patients with pain in the back. In such cases the other symptoms are wanting.

Besides the bone diseases of the spine a certain number of cases occur where the patient apparently has lumbago, but careful examination proves the trouble to be in the spine. In these the pain often runs way up, and the history of rheumatism is usually clear. The trouble seems to be really a rheumatic affection of the ligaments of the spine.

Acute kidney trouble may come on with pains closely resembling lumbago and little if any fever or other constitutional symptoms; then the only means of detection is by examination of the urine. Such cases are rare, but I have had one which very nearly escaped my notice in the hurry of a large out-patient service.

Diffuse pain with no special tenderness is very common in the groups classed as oxaluria and lithiasis.

The pains from diseases of the other viscera can scarcely be confused with lumbago. Those of the female genital organs are referred chiefly to the sacrum, are not so dependent on stooping, are dragging in nature and are usually recognized by the patient. Any doubt should be cleared up by a proper examination.

Excess on the part of the male often produces pain across the back resembling lumbago, but in such a case tenderness is not limited to certain muscles, nor does stooping cause so much pain, but rather tends to relieve it. All are familiar with the peculiar facial expression of this class of patients.

It must not be forgotten that lumbago may be the first symptom of one of the exanthemata, especially small-pox. If new growths are at the bottom of the trouble, they should have been detected during the examination.

Having ruled out the obscure causes of pain in the region, we have left lumbago used in its widest sense. Of its pathology we know little. For working purposes I am in the habit of making a division into three groups:

Traumatic lumbago.

Myalgia, so-called muscular rheumatism.

Diseases of the lumbar aponeurosis.

The essential difference in traumatic lumbago is the trauma. The patient has suddenly been seized with pain and impairment of motion after a sensation "as if something had snapped in the back." It is customary to ascribe this to a strain. In the majority, however, the sudden onset is simply the first perception of an attack of myalgia, which very naturally coincides with some unusual motion, and as such offers nothing peculiar. A few of these cases are due to a strain. When this is the case, during the first few days the tenderness is not so diffuse but limited to, or accent-

uates in, some small area. Œdema and swelling have not been observed. In the two patients of whom I have notes, the cause was in one lifting a heavy weight, in the other sneezing while stooping over to wash the face in a bucket on the ground.

The myalgias form the bulk of the cases, it may be in only one side or in both, or in the quadratus lumborum muscle. The symptoms have been so fully described that they need not be repeated.

Trouble in the aponeurosis is usually rheumatic or gouty in nature. The symptoms are much the same as in myalgia in the mild cases. As a whole the trouble is much more severe, bilateral, accompanied by fever, and intractable. A distinction where possible must be made on these lines; if quickly cured it was a case of myalgia.

So far we have been dealing with diffuse pain, not limited to the region of a nerve. The more frequent and difficult class of neuralgias remain. The characters of these pains having been pointed out, the subject of diagnosis can at once be taken up. As a diagnosis of idiopathic neuralgia can only be made by exclusion, a method similar to that for lumbago is both quickest and most sure. As, however, a division into lumbar neuralgia and sciatica is insufficient, for purposes of diagnosis it is better to make subdivisions according to the major nerves as follows:

LUMBAR NEURALGIAS	Posterior branches. Ilio-hypogastric. Ilio-inguinal. Genito-crural. External cutaneous. Obturator. Anterior crural.
SACRAL NEURALGIAS	Posterior plexus. Sciatica.

Disease of the bones of the spine may produce neuralgia by irritation of the roots of the nerve. Sometimes the pain comes early, when the real trouble may be overlooked. Children have relatively little pain in the back in this disease. As any of the roots may be affected, the pain has no definite seat. The spine should be carefully inspected, especially in children where the ordinary neuralgias are rare. The pain offers some indication of the trouble; it is very susceptible to slight motions and tends to be relieved by extension or lying down. Of course if the deep reflexes are abolished, or even much increased, the case is not one of neuralgia but of some spinal trouble.

Disease of the sacrum is said, as a rule, to pass for some time as a sciatica. Before the necrosis has produced signs on the surface there does not seem to be any way of making a diagnosis except by examination through the rectum. Practically the physician must rely on the constitutional symptoms to give warning, and he must search till something is found.

Disease of the sacro-iliac joint is fortunately rare; it may come by itself or with disease of the sacrum. It frequently passes for sciatica. The pain may be at the joint, in the buttock, the thigh or even the knee. The distinctive points are that the joint is tender to direct pressure, as well as to pressure made on the two iliac bones from side to side.

The disease of the cord which offers most danger of confusion is locomotor ataxia. Pain in the limbs is often a very early symptom and taken for sciatica or rheumatism. The accompanying disturbances of sensation are of questionable value by themselves, since most nerve troubles in the legs have this symptom. A double sciatica is rare, in itself suspicious. The knee-jerk should be examined and also the pupils; if the first is absent and the pupils react to accommodation but not to light, tabes must be diagnosticated.

Meningitis limited to the lumbar region may pass for neuralgia, either in the first stage of acute trouble or later in chronic. The fever should give warning and draw attention to the pain being on both sides, the general spinal tenderness, the increase of the reflexes, the trace of muscular rigidity, the cutaneous hyperæsthesia. Pain is not the only marked symptom. Tumor in the lower part of the cord is to be distinguished on the same lines.

Before leaving the region of the spine psoitis must be mentioned. The trouble is insidious, and owing to the long nerves perforating the muscle may give rise to a lumbar neuralgia before outward symptoms appear. The pains are along the groin and in the surface of the thigh. But it is rare for a psoitis to exist without a set position of the thigh, which is flexed and rotated outwards so as to relax the muscle. There are also the fever and tenderness of the muscle.

Renal colic at times closely simulates lumbar neuralgia; in marked cases the pain is too intense. In milder cases the question is not so easily answered. Drawing up of the testicle, pain along the ureter and tenesmus of the bladder all point to a calculus. But both drawing up of the testicle and tenesmus of the bladder may occur in simple neuralgia. The urine should be examined and inquiries made for previous attacks.

The dull, dragging pains of old uterine-troubles need no note, and the same may almost be said of acute trouble. The pain covers a large part or the whole of the area supplied by the lumbar nerves, a rare thing for a neuralgia. There are also the local symptoms in the organ. The rectum is an occasional source of pain in the sacrum, usually of a dull and gnawing character. Local examination settles the question. For foolish reasons patients are very fond of describing pain which they know is in the rectum as being in the sacrum.

New growths anywhere in the back of the sacrum are liable to cause a neuralgia, either lumbar or sciatic. They must always be borne in mind in intractable cases or in patients at the cancer period of life. The other symptoms are too variable to allow of consideration, and a diagnosis can only be made by finding the tumor. Pelvic exudations may produce the same results.

Troubles in or about the hip-joint still remain to be considered. One of the first symptoms may be pain in either the sciatic nerve, the obturator — pain located at hip or knee joint — or along the groin as stated by Gowers. Pain during childhood in any of these regions calls for careful examination of the hip-joint. In advanced cases simple inspection is sufficient, but in the very first stage it is only by careful inquiry as regards the shape and smoothness of the bones, the tenderness of the joint and slight impairment of motion that a correct diagnosis can be made. In hip disease a limp usually comes before the pain, — a point of considerable value if noted.

In this connection it is well to remember that simple cutaneous neuralgia of the anterior face of the thigh will often produce all the appearances of hip disease. It is recognized by the extreme sensibility

of the skin and the absence of physical joint symptoms.

In the adult, arthritis deformans may cause the same pains as hip disease.

Herpes is often ushered in by severe pain, a neuralgia lasting for some time before the skin lesions appear. If the patient describes the pain as burning, or if cramps in the same region are marked, I am always suspicious. A distinction, however, cannot be made until the cutaneous symptoms appear. This is unfortunate, as the physician sometimes gets into trouble for not being omniscient; it is hard for the patient to believe counter-irritation was called for.

Sciatica is so intimately connected with the subject of this paper that it cannot be passed by, though the pain extends well out of the region. It differs from other nerve pains in that structural lesions are more prominent, an organic basis being found in most cases of any duration. With the deeper grip taken by the disease other marked symptoms occur, as pronounced anæsthesia, paræsthesia, atrophy or even paralysis and true trophic disturbance. As a rule the trouble is unilateral, but this is not invariable. If the trouble is severe and accompanied by pronounced symptoms other than pain, it must be classed as a neuritis. The distinction between double sciatica and neuritis limited to the legs must be made on the same lines. If the knee-jerk is impaired there can be no doubt it is not functional. A history of alcoholism or other poisoning points to a neuritis.

Having located the pain and excluded the organic causes of the mischief, the functional causes are still to be considered. It is well to begin by carefully examining the area of pain for local causes, as scars, small tumors, disease of the bones, enlarged lymphatics at the point of exit; also to inquire for any habit which may produce mild continuous pressure, as using a chair which does not allow the feet to rest on the ground.

The diatheses still remain. They probably all act in virtue of the blood being in a pathological state, as anæmia, debility, the gouty tendency, malaria, poisons. Rheumatism is often given as a cause, but if any connection with acute articular rheumatism is implied the word had much better be dropped. According to my figures but few in a hundred cases of neuralgia have had rheumatism. Whole families may be martyrs to muscular rheumatism and neuralgia for generations, and still be exempt from the articular trouble.

Besides the symptoms given as characteristic of nerve pain in general, certain neuralgias of this region are liable to give rise to other disturbances. Ilio-inguinal neuralgia often causes difficulty of motion and impairs the use of the legs. Genito-crural neuralgia may cause drawing up of the testicle and desire to micturate, and Romberg describes a case in the male where the sexual passions were greatly increased. Obturator neuralgia, an early symptom of hernia, may involve the adductor muscles as well as the hip or knee. The peculiar limp and bend due to sciatica is familiar to all, but too closely resembles some of the distortions due to lumbago to be of much use in diagnosis.

Railroad spine and spinal irritation still require notice. In spinal irritation the pain is chiefly up and down the spine, the posterior processes are very tender, and hyperæsthetic spots are frequent on the sides and the front of the body. The diagnosis between this complaint and spinal neuralgia is often one of fancy.

The pains of railroad spine are twofold: those of general lumbago and those of spinal neuralgia, and both may exist at the same time. The diagnosis is based on the history of trauma and the exclusion of other troubles as in ordinary lumbago. Most, if not all cases of railroad spine which suffer from pain in the lumbar region, have been injured there.

Treatment may be divided into three parts: relief from acute symptoms, treatment of the nerves, and treatment of the condition which directly or indirectly induced the trouble.

In the first group we must rely on the analgesics, of which morphine, cocaine, antipyrin and salicylate of soda are the most effective. With the use and abuse of morphine all are familiar; the same is true of cocaine.

Antipyrin or phenacetin given by the mouth, at times work like a charm and are worthy of trial. I begin with a ten grain dose and repeat, and have found few cases where more than three doses were of advantage. Five grains is at times enough. The local application of antipyrin dissolved in water, close to the stem of the nerve is often followed by happy results; dose three to five grains. The chief objection is quite lively burning.

Salicylate of soda is a valuable drug in many cases. Not only is it the first resource if rheumatism really exist, but also is a powerful analgesic in many forms of nerve pain. This action of the drug does not seem to be generally known in our vicinity, but has for a long time been recognized on the Continent. A small dose is often sufficient; thus in the winter of 1886–87 I had in my care an old woman who suffered greatly from pain in the obturator nerve resulting from arthritis deformans of the hip, to whom a dose of five grains taken at night made the difference between one passed in sleep and one in agony.

All are familiar with the acute symptoms from the brain, heart or kidneys, at times induced by this drug, but it does not seem to be as clearly recognized that the prolonged use of the drug is liable to injure those organs. The question has all been gone over in regard to the use of the drug as a preservative for foods.

In the second division we have three natural subdivisions: remedies applied to the surface, electricity, and internal remedies. The use of analgesic preparations applied to the skin is hardly practicable; the area is large, the nerves lay deep, and the dose is unknown. Counter-irritation is of value; the choice of the agent, from a liniment to the actual cautery, depends upon the severity of the symptoms. In pronounced sciatica, fly-blisters are almost inert. This is the place for the cautery; the burns should be superficial, heal in a few days and distributed along the course of the nerve.

Massage is often of value, but should never be employed till all serious trouble has been excluded.

The old household remedy of dry heat is always in place for lumbago and not a few neuralgias. The salt bag, a saucer or a hand-iron are always at hand.

Electricity is undoubtedly one of our best resources if properly applied. Faradism is of use in the form of the brush where paræsthesia is marked or a temporary counter-irritation is desired. For the pain and nerve disease, if any exist, galvanism is indicated. The direction of the current up or down is of no import;

not so with the poles, the anode is the best for simple pain. In neuralgia a large electrode should be placed on the back, and the surface and track of the nerve slowly gone over with the positive pole. No quick motions or breaks in the current are allowable. In sciatica, that is neuritis, a powerful current, fifteen to twenty-five milliampères, will often do good where less is of no use. When strong currents are used, large electrodes are required to save the skin. Strong currents should only be used after trial with weaker ones, and carefully watched. At times, especially in recent cases, they increase the pain, and do harm. As a rule five minutes is enough. I am in the habit of applying the positive pole for three minutes, then inquiring for the painful points which remain and attacking them. The negative pole can often be used with advantage in cases where the positive is well borne. Do not forget the indifferent pole but slide it along from time to time, otherwise a small crop of blisters may result. The applications should be made daily; if nothing is gained in a week there is little hope of a cure.

In muscular pains, lumbago, the current should go straight through the muscle, one pole in front the other behind. My figures seem to show that the cathode and strong current, fifteen to twenty-five milliampères, should be used. The prompt relief often produced is incomprehensible but undoubted. The Faradic bathing does not seem to me so efficient. Lastly, it is as much out of place to monkey with electricity as with a lancet.

Cold, either in the form of ice-bags or some of the volatile sprays, is certainly of value in sciatica. But where feasible the first indication is rest. The method laid down by S. Weir Mitchell, of rest in bed with a hip splint, ice, massage, the cautery and galvanism, probably represents the best the physician can do in sciatica to-day.

As the causes of pain in the region are infinite, a consideration of the general therapeutics would require a volume.

ULTIMATE RESULTS OF OSTEOTOMY AND OSTEOCLASIS.

BY JOEL E. GOLDTHWAIT.
Formerly House Surgeon at Boston Children's Hospital.

THROUGH the kindness of Drs. S. W. Langmaid, E. H. Bradford, A. T. Cabot, H. L. Burrell and H. W. Cushing, now or formerly connected with the Surgical Staff of the Boston Children's Hospital, I am permitted to publish the results of the following cases, in which operations were done by osteotomy or osteoclasis, for the correction of rhachitic deformity of the legs.

In all there are twenty-eight cases, which are reported at least a year and a half from the time of operation. Fifteen were cases of osteoclasis, twelve of osteotomy, and one, a case in which both operations were performed. This does not include all the similar cases operated upon, but it was impossible to trace the others.

In the majority of the cases, where the curve was in the shaft of the bones, osteoclasis was the favorite operation. (This operation was first introduced into use in this country by Dr. A. T. Cabot, in 1879;[1] the instrument used being a modification of that of Rizzoli.)

[1] Boston Medical and Surgical Journal, vol. ci, p. 217.

In the cases of knock-knee, and in a few cases where the curve was in the shaft of the bones, the osteotome was used. The method used for connecting the knock-knees was that known as the "Macewen operation," or supra-condyloid osteotomy; in which the osteotome is entered from one-half to three-quarters of an inch above the adductor tubercle on the inner side of the femur, is driven through about three-quarters of the thickness of the bone, the part remaining intact then fractured by manual force, and the leg brought into line. For the details of this, and of the other operations, for the correction of genu varum or valgum, any of the standard works of surgery or orthopedics are referred to.

It is to be remembered that no case is reported which was operated upon less than a year and a half ago; while the average length of time which has elapsed is four years, this period having been allowed for any relapse or return of the deformity.

The operations were done as follows: in 1881, two cases; in 1883, four; in 1884, four; in 1885, four; in 1886, eleven; 1887, up to July 1st, three.

All of these cases were seen recently by the writer, either at the hospital or at their homes, and careful observations made. Tracings of the legs were taken and compared with those taken previous to and immediately after operation (so far as they could be obtained) with these results: Of the twenty-eight cases, twenty-seven did not relapse; one case did. Of the twenty-seven cases, the legs were found to be in excellent position, and in none was there deformity enough to be noticeable. There was also no exaggeration of the normal lateral mobility of the knee-joints.

The almost universal expression on the part of the near relatives was that the legs had grown straighter rather than more deformed since the operation.

Perhaps the present condition of these patients may be better appreciated from the diagrams herewith.

Fig. 1 represents a composite of the tracings of the twenty-seven cases, as seen from the front. These tracings are taken as follows: first, the simple tracing of each case is taken, that is, the child sits upon a piece of paper with the internal malleoli, or knees together, according as it is a case of bow-legs or knock-knee, and with a pencil held perpendicular to the paper, the outlines of the legs are traced. These tracings are then reduced to a common size, and are reproduced till all of the tracings are drawn upon one piece of paper, one over the other. From this what represents the average of all of these is drawn, and is termed the composite tracing.

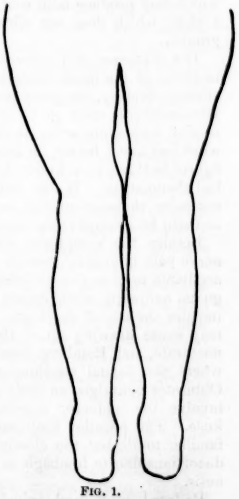


FIG. 1.

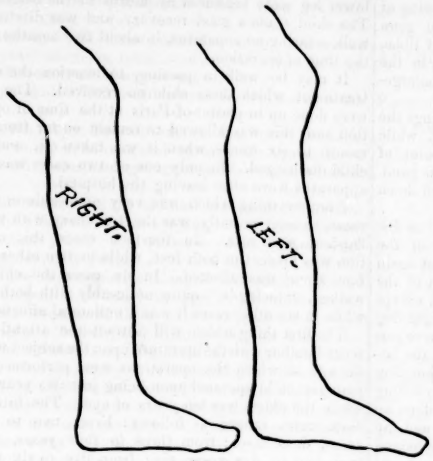


Fig. 2.

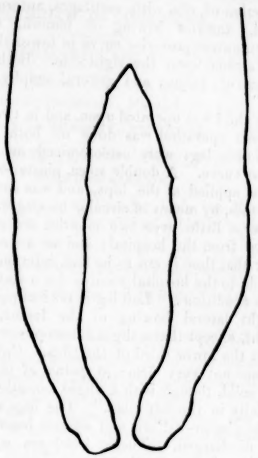


Fig. 3.

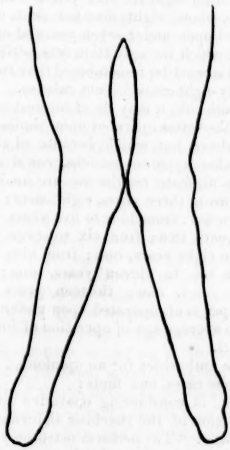


Fig. 4.

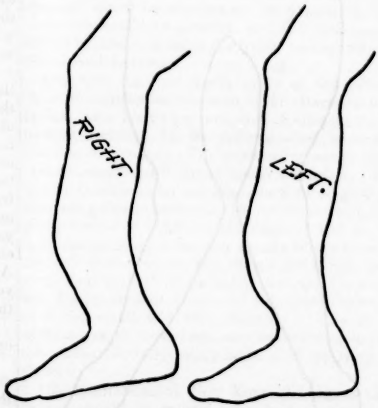


Fig. 5.

Fig. 2 represents a composite tracing of the results in five of the above cases, in which the deformity had been an anterior bowing of the bones of the lower leg. These tracings are taken with the legs lying upon the side.

It will be interesting as well as instructive, by way of comparison, if we have an idea of the condition of these cases previous to operation. (It was impossible to obtain tracings of all of these cases before they were straightened, but those which could be found are utilized in making up the following diagrams.)

Fig. 3 represents the composite of the tracings in ten cases of bow-legs before operation. Of course, among these cases, as well as among the cases of knock-knee, were some in which the curve was very extreme, while in others the deformity was so slight as to render an operation questionable.

Fig. 4 is a composite of five cases of knock-knee.

Fig. 5 is a composite of three cases of anterior bowing of the tibiæ, as viewed from the side.

In the twenty-eighth case the result is not so satisfactory; and in order that it may be fully understood, it will be necessary to go more into detail.

Referring to the hospital records, we find, that in March of 1886, F. B., colored, aged four and one-half years, came to the hospital, presenting the following condition: "rhachitic changes in all of the long bones in the body, clavicles very angular, well-marked rosary

at junction of ribs with cartilages, anterior bowing of humeri, anterior bowing of femora, double genu valgum, antero-posterior curve in lower third of tibiæ, very extreme upon the right side. Both feet in the position of valgus, and general epiphyseal enlargement."

The child was operated upon, and in two sittings the Macewen operation was done on both knees, while both lower legs were osteotomized at the point of greatest curve. A double spica, plaster-of-Paris bandage was applied at the hips, and was continued down to the toes, by means of circular bandages.

After a little over two months, the child was discharged from the hospital; and as a tracing of the legs at that time is not to be had, reference must again be made to the hospital records for a statement of the child's condition: "Left leg in perfect position, except a slight lateral bowing of the femur. Right leg straight, except that a slight antero-posterior curve persists at the lower third of the tibia. Union at the latter place not very firm; at points of other operation more solid, though with a slight sensation of yielding especially in the left tibia." The legs were done up in light plaster-of-Paris and silicate bandages, and the child discharged. These bandages were removed several weeks later, and as at that time no further treatment was deemed necessary, the child was allowed to walk about.

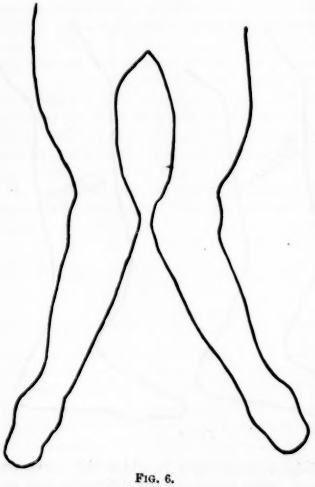


FIG. 6.

As seen a short time ago, there was present a well-marked double knock-knee, with lateral curving of both femora, while the lower legs were fairly straight. Fig. 6 represents a tracing taken at that time.

The process of relapse, according to the mother, was a very gradual one up to a number of months ago, since when, to her knowledge, there has been no further increase in the deformity.

The largest number of bones fractured at any one sitting was six. This, in a child five and one-half years of age, in whom both femora were osteotomized by the Macewen method, while the bones of each lower leg were fractured by means of the osteoclast. The child made a good recovery, and was discharged well, wearing no apparatus, in about two months from the time of operation.

It may be well in passing, to mention the after-treatment which these children received. The legs were done up in plaster-of-Paris at the time of operation and this was allowed to remain on for from one month to six weeks, when it was taken off, and the child discharged. In only one or two cases was any apparatus worn after leaving the hospital.

Another thing which was very noticeable in these cases, as seen recently, was the frequency with which flat-foot was met. In fourteen cases this condition was present in both feet, while in two others one foot alone was affected. In six cases the children walked, "toeing-in" quite noticeably with both feet, while in six other cases it was a unilateral affection.

The first thing which will attract the attention of those familiar with the literature upon the subject will be the age at which the operations were performed, the youngest child operated upon being just two years old, while the oldest was ten years of age. The intermediate cases ranged as follows: From two to three years, three cases; from three to four years, nine; from four to five years, six; from five to six years, two; from six to seven years, four; from seven to eight years, one; from eight to nine years, two; ten years, one. Thus, about eighty-five per cent. of the cases were operated upon under seven years of age, or the average age at which the operation was performed is four years; and it must be remembered that twenty-seven out of twenty-eight cases did not relapse.

In connection with this, it may be of interest to note the ages of thirty other cases operated upon similarly to those mentioned above, but which, because of change of residence, or other apparent reasons, could not be found, so that the ultimate results we are unable to compare: From two to three years, eight cases; from three to four years, ten; from four to five years, four; from five to six years, two; from six to seven years, one; from seven to eight years, one; from nine to ten years, one; from ten to eleven years, one; from eleven to twelve years, one; thirteen years, one. Again eighty-five per cent. operated upon under seven years of age, or an average age of operation of four and three-quarters years.

Referring to the authorities for an opinion as to the operable age in these cases, one finds:

E. Noble Smith [2] in considering operative interference for the correction of the rhachitic deformities of the lower legs, says: "To perform osteotomy upon cases that can be cured by more simple means, is contrary to sound surgical principles, and the frequent performance during the last few years of this operation upon children between four and twelve years of age has called forth strong condemnatory expressions from many surgeons of high repute. . . . Up to about twelve years of age, and even beyond this period, simple curvatures and genu valgum may be nearly always cured by pressure alone."

Ogston [3] says: "Most cases of knock-knee, under puberty, are curable without a cutting operation."

Adams: [4] "Osteotomy should not be performed upon very young children; for them, splints, bandages and constitutional treatment should suffice."

[2] The Surgery of Deformities, p. 268.
[3] Owen. Surgical Diseases of Children, p. 83.
[4] Ibid, p. 83.

Barker:[5] "Will not operate earlier than the sixth year."

Macewen:[6] "Will not operate on any patient under nine years of age, at least; and he would prefer them to be fifteen years of age or more."

Barwell:[7] "Will not operate before the seventh year."

A. W. Mayo Robson[8] reports fifty-three cases, in which three were operated upon at the age of three years, while the average age was eleven and one-half years.

Chotzen[9] reports the ultimate results of twenty-two cases in which the age of operation varied from fifteen to nineteen years. The ultimate results in these cases were universally good.

At the International Congress in 1884, held at Copenhagen, Macewen[10] reported 1,118 cases, drawn from the practice of thirty-seven surgeons, including American, English and Continental, in which the ages of operation varied from three to thirty-nine years. In this same paper, in speaking of the ultimate results, he says he has known two cases to relapse, where there were anterior curves to the tibia in young children, and one case after his method of supra-condyloid osteotomy.

It will be seen from this that osteotomy and osteoclasis is performed at the Boston Children's Hospital at a much younger age than is considered allowable by many of the standard authorities; and yet after a considerable period of time only one case out of twenty-eight has relapsed, and that a case in which acute rhachitic processes were present after operation.

To summarize, in conclusion: twenty-eight cases are reported, fifteen cases of osteoclasis, twelve of osteotomy and one case in which both operations were performed. The average time which has elapsed since operation is four years. Of the twenty-eight cases, twenty-seven are found in excellent position while one, a case in which the rhachitic processes were active after operation, has relapsed. The average age of operation was four years, while the youngest child was operated at the age of two years, and the oldest was ten years of age. Double talipes valgus was found in fourteen cases, and single in two cases, and a tendency to toe-in was also a frequent occurrence.

—Vaccination, according to *Medical News*, has been obligatory for some years in Japan, and every infant is required by the police to be vaccinated. The value of the procedure is, however, well recognized by the people themselves, and the government hospitals in every town are always thronged with applicants on the weekly "vaccination day." In 1886 there were 1,531 vaccinations to each 10,000 inhabitants.

—The ratio of illegitimate births in the various countries of Europe, is, according to the last reports, as follows: Out of every hundred births 7 were illegitimate amongst the Spanish, 11 amongst the Italians, 16 amongst the English, and 24 amongst the Germans. In Paris, however, the illegitimate births reached 38 amongst people of French nativity.

[5] Owen. Surgical Diseases of Children, p. 84.
[6] Ibid, p. 84.
[7] Ibid, p. 84.
[8] British Medical Journal, January 19, 1889, p. 125.
[9] Breslauer ärztl Zeitschr., No. 23.
[10] Cong. Internat. des Sciences Médicales, Sect. de Chirurgie, p. 73.

Reports of Societies.

AMERICAN DERMATOLOGICAL ASSOCIATION.

THIRTEENTH Annual Meeting, held at 19 Boylston Place, Boston, September 17, 18, and 19, 1889.

FIRST DAY. — TUESDAY, SEPTEMBER 17TH.

Business meeting, with closed doors, at 9.30, A. M.

MORNING SESSION.

DR. J. E. GRAHAM, of Toronto, Can., the President of the Association, read the annual address, taking for his subject the question of

THE PREVENTION OF SKIN DISEASES.[1]

DR. F. B. GREENOUGH, of Boston, read a paper entitled

CLINICAL NOTES ON HERPES ZOSTER.[2]

It comprised statistics drawn from a series of 235 cases of the disease occurring during the past sixteen years at the Boston Dispensary, the total number of patients with skin diseases treated during that time being 17,741. The ratio is, therefore, a little less than 1½%; 45% were males. The most frequent age was from ten to fifteen; a fact which surprised the reader. It was found that the greater proportion of cases occurred in the spring months, with very little variation in the separate years. The reader did not think the eruption could be aborted or the disease shortened. Irritation should be avoided, and the vesicles should not be broken. A large diachylon plaster will sometimes be of benefit.

DR. FOX, of New York, spoke of the etiological value of violence in reference to the attacks of herpes. It had been his experience, that in almost every case where the history was carefully obtained, some injury could be discovered. The relationship was so intimate that he considered it one of cause and effect. In the way of treatment, he had found nothing so good as the constant galvanic current. No remedies which he had given seemed to influence the disease; and he found many cases would come to a speedy termination without any treatment at all. Some years ago, he had given rhus toxicodendron in one case, and the eruption had disappeared at once. In subsequent cases, however, the result had been different. Two or three applications of the current may be sufficient to render the patient entirely comfortable until recovery takes place.

DR. ROBINSON, of New York, did not think the disease should be strictly classed as a neurosis. It seemed to him that it was an infectious disease, of a character similar to pneumonia. It has a definite duration, and generally appears but once in a lifetime. He did not believe that trauma would be a sufficient cause for it. The speaker had seen one case where both sides of the face were affected, occurring during the course of a croupous pneumonia.

DR. ZEISLER, of Chicago, asked in reference to the production of the disease by arsenic. He had lately seen a case of Hodgkins' disease which was treated with arsenic, where, after the tumors had nearly disappeared, a crop of herpes vesicles came out in the gluteal and femoral region. The speaker instanced one case where there was perfect analgesia over one

[1] See page 293 of the Journal.
[2] This paper will be published in full in the Journal.

side of the face, and at the same time a prickling and burning sensation over the same portion of the skin. Perhaps this would be a corroboration of the statement that sensitive fibres have different terminations in different points in the skin.

Dr. P. A. Morrow, of New York, asked if the hyperæsthesia and analgesia were upon the same surface.

Dr. Zeisler replied that it was upon the same area, although it was impossible to say that it was at the same exact point.

Dr. Morrow remarked that the temperature sense and pain sense were generally lost at the same time. The observation seemed to him a very interesting one.

Dr. Bronson, of New York, said that, to him, there was an unsolved mystery about the etiology of the affection. It seemed to occur with a regularity that was opposed to the idea of its infectious nature. There have been epidemics of the disease, and yet it does not seem to depend on the factors, such as season and temperature, which influence other infectious diseases. The local character of the lesions also militates against the infectious origin. In diphtheria we can see how the poison reaches the point where the effects are noticed; but in the case of zoster, it is difficult to suppose that the germs can locate themselves in the nervous ganglia.

The paralytic phenomena are not easily explained, especially in that form which affects the facial muscles; in the extremities the same result is more easily accounted for. The speaker had seen two or three cases, in one of which the different phenomena were so closely connected in time that it seemed as if the same cause had produced both of them. In one case he had thought there might have been an inflammation of the Gasserian ganglion, with extension of the inflammation through the plate of bone which separates it from the intumescentia gangliformis; but perhaps it is more reasonable to suppose that it was reflex in its origin. The speaker had used successfully a solution of gutta-percha in chloroform, finally sweeping over the part a wisp of absorbent cotton, a few fibres of which would cling to the surface. It seemed to him that under this mode of treatment the process was sometimes arrested.

Dr. Sherwell, of Brooklyn, believed in the protective dressing, and that the continued current is capable of giving great relief. Some persons are of rheumatic tendency, and this should be looked out for.

Dr. Hardaway, of St. Louis, asked about the occurrence of chronic zoster, and related the history of a man of sixty years who exhibited eruptions of zoster on both sides of the neck. The speaker believed in galvanism, but was inclined to question whether the whole effect is due to electricity, or whether mental effect may not play some part. He instanced the case of a woman who was given an application of the electrodes for the relief of a severe attack of supra-orbital neuralgia. The result was a happy one, and the patient went away absolutely without pain. He discovered later that he had neglected to immerse the element. The speaker had found nothing so good for the local treatment as a protective dressing in the shape of collodion. He objected to the use of greasy ointments, which macerate the vesicles, so that the tops are rubbed off, and scars are more apt to follow.

Dr. Bulkley, of New York, remarked that the disease is seen in almost the same proportion in New York as in Boston, it being a trifle over one per cent. and remaining the same year after year. It seemed strange that there are so few cases where both sides are affected at the same time. He had seen zoster on the persons of those who exhibited the scars of a previous attack. He did not believe the affection was a local manifestation of a general disease, but that it was reflex, and of traumatic origin. The reason why it so frequently appeared at the waist was because of the separation of the clothing in both men and women and the consequent liability to the effects of cold. In one case of lymphoma of the neck, there had come on an extensive zoster over the course of the nerves passing through the growth. It had been a frequent experience with him that persons taking arsenic were affected with the disease. His treatment was to bandage the part as tightly as possible with a swathe, on the inside of which a good amount of starch had been sprinkled, and the whole sewed on. This is left on for a week and gives great relief without any other treatment.

Dr. Howe, of Boston, had found some discomfort arising from the collodion dressing when he was dealing with the papular form of the disease. Sometimes thin sheets of cork, placed on each side of the affected area, with powdered starch between will afford entire relief.

Dr. Klotz, of New York, did not agree with the view that made the disease an infective process. Croupous pneumonia, which is the best example of such diseases, is sometimes the result of trauma. In two cases of zoster that he had seen the lesions became gangrenous. Both these cases had syphilis, and in one of them the disease had been supposed to be a syphilitic ulcer.

Dr. Morrow spoke of two cases where the eruption appeared below the knee, a fact which is contrary to the statements of most authorities. He mentioned one case where a hot-water bag applied to the spine had given complete relief to the pain accompanying an eruption in that region. The speaker generally used benzoated flexile collodion as a protective.

Dr. Robinson did not mean to assert that an infectious process was necessary for the appearance of the eruption. He had seen a well-marked case of zoster where Pott's disease was the starting point of the irritation.

Dr. Graham, of Toronto, reported a fatal result in a case of zoster affecting one side of the face, the cheek and lower lid. On the fourth day the pain had attacked the other side of the face, and on the fifth day the patient suddenly died. At the autopsy there was found a softened condition of certain parts of the brain. The Gasserian ganglion, and a portion of the fifth nerve were found to be inflamed, and leptothrix threads, together with single bacteria, were found in some of the arterioles of the former structure.

Dr. Greenough, in closing the discussion, said he had no data in reference to the effect of the ingestion of arsenic in the formation of zoster. He considered the co-existence of pain and paralysis as due to the intimate anastomosis between the nerves, although there might be a certain amount of reflex action.

Dr. C. Heitzmann, of New York, read a paper on

Microscopical Studies of Malignant Tumors of the Skin.

The pathology of the skin is intelligible only upon

the recognition of the fact that the basis substance of the fibrous connective tissue of the derma is living, and capable of proliferation in the same manner in which the protoplasm of this tissue, the so-called "cells" are viable. The reader had first announced this fact in 1873; and since 1880 Stricker, of Vienna, has adopted the same view.

In inflammation of the derma there is first noticed an increase in the amount of living tissue in the interstices, and at the same time the basis substance bordering such an inflammatory area returns to its protoplasmic condition, and splits up into inflammatory corpuscles, just as does the protoplasm between the bundles of connective tissues. From this inflammatory structure bundles of fibrous tissues may again form giving us the "hyperplasia" of Virchow. A breaking asunder of the inflammatory corpuscles leads to the formation of pus corpuscles, the sum total of which we term an abscess.

In the formation of tumors the tissue of the derma invariably returns into its protoplasmic or embryonal condition with the production of new formed medullary or indifferent corpuscles, from which a tissue originates either kindred to the normal tissues, as in myxoma, fibroma, etc., or it remains in an embryonal condition as in sarcoma, which the author prefers to call myeloma. In cancer a new formation of epithelium takes place, with a new formation of myxomatous or fibrous connective tissue. The reader would divide all myelomatous, that it, sarcomatous tumors into two main divisions, the globo-myeloma, corresponding to the round-cell sarcoma and the spindle-myeloma, or spindle-cell sarcoma. All other varieties he would consider embraced by these.

Globo-myeloma is made up exclusively, or prevailingly, of globular corpuscles of different sizes; sometimes the smallest is not larger than a lymph corpuscle, and in that case we have the lympho-sarcoma, which the author thinks identical with the outgrowths of mycosis fungoide of Kaposi. There are two main sources for these cells, namely, the protoplasm between the bundles, and the basis substance of the bundles themselves. First are observed globular bodies between the bundles; these have unquestionably sprung from the protoplasm by an augmentation of its living matter by a proliferation of its cells. The newly formed elements are first small, homogeneous and highly refractive, representing therefore solid lumps of living matter. These increase in size, become vacuolated, and a solid or reticulated nucleus appears in the centre of each corpuscle. At the same time there is a transmutation of bundles of fibrous tissues into either reticulated masses of protoplasm or single pieces, these being separated from one another by a little cement-substance. Later on these square pieces are further split up into myeloid corpuscles.

When the lymphoma appears in the derma there is a gradual thinning of the epithelial covering, and loss of the hairs, with final disappearance of all epithelial structures. According to the idea of the reader, the epithelia are transformed into giant cells, which in turn split up into myeloma corpuscles. In the case of the spindle-myeloma the same course holds true as in the formation of the globo-myeloma.

In the case of carcinoma the normal epithelium is not transformed directly into cancer cells; there is a stage of indifferent protoplasm, and the production of multinuclear masses, which split up into cancer epithelia by the appearance of a new cement-substance.

What Waldeyer considered an inflammatory new formation in the surrounding connective tissue was considered by the reader to be only the pre-stage of cancer. The medullary corpuscles which have been formed are transformed into cancer cells. In the epidermal cancer this change is seen along the border of the epithelial pegs. Here the indifferent corpuscles change into multinuclear bodies in which boundaries of cement-substance appear. In this case, too, the medullary corpuscles within the connective tissue arise also from the basis substance as well as from the cells.

That the connective tissue participates in the growth of the cancerous tumor, and that its so-called small cell infiltration is a mere pre-stage of cancer, is clinically of the utmost importance. Whenever a cancer is removed with the knife, and we find at the cut surface of the extirpated mass small, shining, medullary corpuscles, we can positively foretell a recurrence, however small the number of such corpuscles found in the fibrous connective tissue of the derma or in the myxomatous net-work of the fat globules of the subcutaneous tissue.

DR. ROBINSON did not wish to express positive opinions in regard to the views advanced by the author of the paper until he had studied the matter thoroughly. He would agree entirely with Dr. Heitzmann in regard to the histology and growth of connective tissue. He would not, however, classify sarcomata with tumors proper, but considered them the manifestation of an infectious process. They are the result of a dermatitis, and are not a new growth. In the case of an epitheliomata we have to do with a specialized structure, and it seemed to him that it would be at least very difficult to prove that you could get epithelial tissue from an ordinary connective tissue. The necessity of the previously existing epitheliomatous tissue is shown by the character of the secondary tumors and the hereditary tendencies of the disease. If epithelial tissue can arise from the embryonal tissue coming from connective tissue, it would be expected that sometimes we would get epitheliomatous growths in those tissues which are more or less embryonal naturally, such as the lymph glands.

DR. HEITZMANN remarked that he had just such a specimen.

DR. ROBINSON thought no one else had ever seen such a case. As regards the change from epithelial structures into indifferent corpuscles, and then into other cancer cells, in his experience he had never seen such a case. He would summarize his position as follows: that an irritation, if not too severe, in which case it would be destructive, might produce a formative growth; that sarcomatous formation might take place from connective tissue without supposing the presence of elements from fœtal life; that in the case of the epitheliomata there must be the presence of a previously existing epithelium; that epithelial elements cannot change into medullary corpuscles, and then into elements; and no more can connective tissue elements pass into epithelium.

DR. HEITZMANN said he was ready to admit that, when the myeloma is just starting in the dermal tissues, it is impossible to distinguish it from simple inflammatory action. We must depend upon clinical observation, as the origin is identical in the two cases.

DR. ROBINSON, referring to his belief in the infectious nature of the sarcomata, mentioned Dr. Sherwell's case of round-cell sarcoma of the skin. It was noticed that some of the tumors disappeared while new ones arose. If they were a new growth, they ought to continue to grow indefinitely. It is known that in cases of mycosis fungoide the tumors will come and go constantly.

DR. SHERWELL mentioned a quite similar case observed in Burlington, Vt., where many of the tumors disappeared under treatment, their place being taken by a distinct depression in the skin.

AFTERNOON SESSION.

DR. P. A. MORROW, of New York, read a paper entitled

THE DIAGNOSIS OF LEPROSY; ESPECIALLY THE DIVISION OF THE ANÆSTHETIC FORM FROM SYRINGOMYELIA.

Little is said in the text-books about the diagnosis of this disease, perhaps because few writers have been personally familiar with it. In the later stages the diagnosis is not difficult, but in its inception it is often doubtful. In the examination of the suspects at Honolulu a large number are remanded for further developments, and it should be borne in mind that this is not owing to any lack of skill on the part of the physicians. Many of the initial symptoms are quite indeterminate, and might be referred either to leprosy or to other diseases. The affection is most likely to be confounded with erythematous diseases, with lupus, and with certain affections of the nervous system, while many parasitic diseases have very similar lesions.

Two main forms of leprosy are recognized; the tubercular and the anæsthetic. In one there is a determination of the process to the integumentary tissues and in the other to the nervous system. In tubercular leprosy the prodromal symptoms have little value, and the same may be present in syphilis and other diseases. In this form the presence or absence of anæsthesia is of no diagnostic value whatever. The eruption is not at all pathognomonic. The macules which first appear are round, oval or irregular, of a bright, or sometimes dark red color, fading on pressure. As a rule they are not infiltrated, and may disappear without a trace, or they may leave a yellowish spot. Sometimes they may present a picture similar to erythema multiforme. After a time these macules become persistent, and then there is a tendency to the formation of tubercles; but the latter may develop in isolated spots, quite apart from the large erythematous areas.

In its origin the disease resembles syphilis in the long period of incubation and the successive crops of the eruption. The syphilitic roseola corresponds to the leprous erythema; the mucous membranes are affected in each, although the throat is not affected in leprosy. There is more infiltration of the skin, especially in the face, in the case of leprosy, and leontiasis is more often seen, as well as the breaking down of the osseous framework of the nose. Sometimes the tubercles of this disease resemble very much those of lupus. Sarcoma has been confounded with the disease, but when the fungoid state is reached and the tumor suppurates the distinction is easily made. The disease has also been mistaken for acne, sycosis, lichen planus, erythema nodosum, moluscum fibrosum and dermatitis medicamentosa. The bacillus lepræ is invariably found in the tissues, and stamps the disease when such examination can be made.

The anæsthetic form of the disease presents a greater variety and complexity of symptoms. While the demonstration of the bacillus is rarely practicable, yet the invariable presence of anæsthesia has almost a pathognomonic value. The macular lesions which are seen are pigmented, and tend to clear up in the centre while they spread peripherally. On first appearance the macules are hyperæsthetic, but this condition is followed by anæsthesia in the centre, as the affected surface widens. The reader showed colored drawings representing a case that had existed five years, where the lesions were well-marked upon the feet and lower part of the leg. Here the central portion presents a bluish or grayish appearance distinct from the reddish outlines of the edges. There was anæsthesia in the centre, with normal sensation just outside the margin.

In general it is found that there are many irregularities in the course of the anæsthetic symptoms. It is distinguished from chromophytosis by the absence of scaliness and the absence of the parasite of that disease. It is to be distinguished also from vitiligo and morphia. The hairs of the affected surface often fall out. An interesting point is the plantar ulcer, which very frequently forms, owing, the reader thought, to the custom of going with bare feet. This lesion resembles the mal perforans.

The nerves most frequently affected are the ulnar, the peroneal, and the third and seventh pairs. There may be wrist-drop, and a peculiar claw-like contraction of the fingers. Since the pathological lesion is a multiple neuritis, it is not surprising that there are many diseases of the central nervous system which resemble leprosy. The atrophy and degenerative changes may be limited to the muscles of the hand and forearm and may present a perfect picture of the lesions of progressive muscular atrophy. It is distinguished by the presence or absence of sensory disorders.

The disease most difficult of differentiation is syringomyelia. This disease was formerly considered to be very rare, and to be met with only post-mortem, but of late a number of cases have been reported. Its main symptoms are sensory disorders and trophic changes. The atrophy is localized in the muscles of the hand and forearm. There is a flattening of the thenar and hypothenar eminences, with absolute loss of pain and temperature sense, with retention of tactile and muscular sense. The reaction of degeneration is sometimes present. After a time the disease may remain stationary.

Dr. Morrow related the case of a person living in this country, but who had been born in the Sandwich Islands, a young man of twenty years. When eight years old the patient had fractured the right clavicle. Within from one to three years afterward, the history not being definite, there was felt a numbness of the hand. It was supposed to be of spinal origin, and the actual cautery was applied. Contraction of the fingers came on, and has remained since, but the numbness has crept up the forearm. The right arm measures one and one-quarter inches less than the left. There is also atrophy of the muscles of the right leg. A superficial sore appeared over the index finger, refusing to heal. Electric excitability of the hand was lost. After a time two or three brownish spots appeared upon the forearm.

This case presented many of the symptoms of syringo-myelia, but may be distinguished by the sensory loss. The child had been to the Sandwich Islands when nine years of age, and that fact is of weight in making the diagnosis. The fact that the present good health of the patient is not conducive to the spread of the disease may explain the asymetrical character of the lesions and the non-progressive type of the disease. There are many abortive cases, and no doubt the removal of this boy to a different climate has increased his capacity for resistance.

DR. HARDAWAY said that in his experience most of the cases we see in this country were mixed cases. He presumed it was admitted that tropical cases are mostly anæsthetic, while in temperate climates the cases are mixed.

DR. MORROW did not think so. In India it is comparatively a minimized form of the disease. In the Sandwich Islands there has been noticed a progressive increase in the number of anæsthetic cases, the anæsthetic representing the milder type. About one-half are tubercular, one-third anæsthetic, and the remainder mixed.

DR. BRONSON spoke of the great resemblance shown by some of the photographs which the reader had presented, to syphilitic lesions, and Dr. Greenough called special attention to the same point.

DR. BULKLEY asked if the lesion on the sole of the foot was sufficient alone to establish a diagnosis.

DR. MORROW replied that the photograph of this lesion that had been shown had been taken several years before, and that since that time other lesions had appeared, and the patient had afterward been sent to the leper settlement. He did not think that lesion would be present as an early symptom except in places where the people went barefoot.

DR. GRAHAM cited the case of a woman, seventy-two years old, who had the anæsthetic form of leprosy, who suffered with an ulcer on the sole of the foot, though she did not go barefoot.

DR. JACKSON, of New York, under the title

CONTRIBUTION TO DERMATOLOGICAL BIBLIOGRAPHY,

presented to the Association a very complete list of dermatological published material.

DR. GRAHAM returned to Dr. Jackson the thanks of the Society

DR. J. ZEISLER, of Chicago, read a paper on

THE OCCURRENCE OF PRURIGO IN AMERICA.

His inquiry was intended to throw light upon the subject question of whether true prurigo occurs in America, and, if there is a difference in the proportionate amount, to what it may be due. In France, up to ten years ago, the disease was almost unknown. In 1876, Dr. James C. White said that it was not seen in this country. It is now generally believed that true prurigo does exist here, but the severe form is quite uncommon. The mild form of the disease does certainly occur.

Out of 1,370 cases of skin diseases the reader had seen twelve cases of prurigo, five of them severe, and the rest mild. Out of 1,108 cases in private practice nine were cases of prurigo, of which three were severe and six mild. Out of the whole number, the percentage would be .875, which is a larger proportion than is generally supposed. According to the reports of this Association a year ago the per cent. was .027, and last year it was .033. In Prague, in 1874 it was .566, and in 1875 in the same city, it was .714. In Christiana there is reported an occurrence of a little over three per cent., while in Vienna it forms from two to three per cent. of all skin diseases.

In the five severe cases there could be no doubt about the diagnosis. In the twelve cases, only one of whom was born of native parents, seven might be classed as being in poor circumstances, and four of these seven were affected with the severe form of the disease. Of the five who were in moderate circumstances only one had the severe form. Five of the seven mild cases have been cured, and the other two are improving. The five severe cases which have been watched for a long time, seem at times to improve a little, and then relapse when neglected. Frequent bathing is one of the best remedies for the disease, and the reader thought that the greater habits of cleanliness in this country would explain the rarity of the affection.

The following conclusions were drawn, namely: (1) Prurigo does certainly exist in America. (2) The severe form, while occurring in perfectly typical examples in patients born or raised here, is comparatively rare. (3) Prurigo mitis is not uncommon here.

DR. TAYLOR had seen two cases of what seemed commencing prurigo in children who had chronic urticaria, and one case of true prurigo in the adult.

DR. FOX had seen two cases in adults where there could be no question about the diagnosis. Several cases had been presented before the New York Dermatological Society, and some of the members had questioned the diagnosis. Their objections had been based on the cases shown in Vienna in the clinic, where only the marked cases were presented. It seemed to the speaker that there had been a great diffidence in making the diagnosis, on the ground that the cases did not present these marked characteristics. In its mild form the speaker did not believe it to be a very rare disease, although, of course, it is not a common one.

DR. ROBINSON had never seen a case in this country that he would be willing to diagnose as such, although he had seen them in Hebra's clinic.

DR. GREENOUGH had seen many cases in Vienna, but he had never seen at the Boston Dispensary any cases of what Dr. Zeisler would call the severe prurigo. He had seen several cases about which there was a question. He would not deny that they might have existed, and thought it possible that some of the cases that he and his colleagues had entered as pruritus were mild cases of prurigo.

DR. WIGGLESWORTH said that the first case reported in this country had been reported by him. He had at present a case under observation, a boy who would be presented to the Association on the last day of the meeting.

DR. BRONSON thought something of a bugbear had been made of the subject. There can be little question that the disease exists as an individual affection in Vienna. If we accept the view that the disease is essentially a neurosis which primarily affects the sensory and motor nerves, and that the trophic changes are secondary and the result of irritation, then we are justified in recognizing the disease as of common occurrence, even here. It had been the experience of the speaker that pruritus most affected those portions of the skin which are most affected by prurigo. He be-

lieves that the neurosis is identical in the two cases. From certain causes this neurosis is much aggravated in Vienna and some other foreign places, but it is sometimes seen here in the severe form. The speaker had never seen a case of the persistent form, as it occurs in Vienna.

DRS. JACKSON, BULKLEY, SHEPHERD, SHERWELL, HOWE, KLOTZ and HEITZMANN participated in the discussion, each of them having seen from one to three cases.

DR. ZEISLER said it was no objection to the diagnosis that the patients were cured. Mild cases are perfectly curable, especially since the use of β-napthol. The severe cases can be rendered very comfortable, at any rate.

DR. J. F. SHEPHERD, of Montreal, reported

TWO CASES OF ECZEMA MERCURIALE.

These cases followed the use of Scott's dressing, which is made of one part mercury to four parts of ammoniac plaster. He had used the dressing in the treatment of chronic synovitis of the joints. Both cases reported occurred in young men. In the first case the dressing was kept on three weeks without renewal. At the end of that time the knee had regained its normal shape. A year later a similar attack came on and the same application was made, but this time on a surface that had recently been blistered. At the end of a week the skin about the knee was found inflamed, red and brawny. The next day the face was red, hot and swollen, and covered with fine vesicles, the eruption extending down as far as the clavicle. At the same time the eczema about the knee extended as far as the groin. Recovery was complete in two weeks.

In the second case the dressing was removed after three weeks, and an eczematous rash found on the surface which had been covered. Three days later there was a marked swelling of the eyelids, and in two days the whole face had become reddened. At the same time a papular eczema appeared on the leg and forearm, and the genitals were acutely inflamed. Desquamation occurred in two weeks, but the rash did not disappear for six weeks. A third case had been reported to him as occurring in the practice of a colleague, the history being very like those mentioned.

DR. MORROW referred to the fact that in certain cases the eruption caused by drugs will persist for a long time, although the general rule is for a speedy disappearance when the irritating cause is removed.

DR. GREENOUGH had seen one patient who seemed to have a peculiar idiosyncracy. He used the ointment, and it was followed by a severe dermatitis which took on a diffuse phegmonous form, and he was confined to his bed for six months.

The discussion was further participated in by DRS. ZEISLER and GRAHAM.

At this point a letter from DR. DUHRING was read, in which was expressed regret that he was unable to be present at the meetings of the Association.

(To be continued.)

— "What you need is a change of climate," said the fashionable doctor to his patient. "Why, man alive, that's what I've been having," was the reply. "I've stayed right here in New England for the last twenty-five years." — *Christian Register.*

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THE URINE IN PERNICIOUS ANÆMIA.

DR. WILLIAM HUNTER, of Cambridge University, England, who last year published some interesting and important observations regarding the symptomatology and pathology of pernicious anæmia, has now supplemented these in the *Practitioner*, for September, by other observations on the urine in a case of this disease, — observations which he thinks show that the urine in pernicious anæmia presents specially characteristic features, and such as serve to establish the diagnosis of the disease.

A relatively high hæmoglobin percentage to the number of red blood corpuscles Dr. Hunter considers to be the only characteristic feature presented by the blood in pernicious anæmia, but he is of those who regard pernicious anæmia as a distinct and separate disease, not merely as an extreme form of anæmia or chlorosis or the terminal stage of other diseases.

In the case under observation the color of the urine was the most striking feature throughout. It was exceedingly high, varying slightly from time to time, but always remaining very much higher than ever observed in conditions of health. At no time were any bile pigments to be detected. As regards its spectrum and its chemical behavior, the coloring matter present in such large quantities had all the characteristics of pathological urobilin; and there is no doubt that in all cases such urobilin is a product derived from the disintegration of hæmoglobin. The richness of the patient's urine in coloring matters could have had absolutely no relation to the absorption of matters derived from the food, as this was as little nitrogenous as possible, and consisted mainly of milk. The excretion of such large quantities of coloring matter, entirely independent of the occurrence of fever or of any diminution in the quantity of urine or rise in the specific gravity, was regarded by this observer as of the greatest interest and importance in its bearing on the diagnosis of the disease; and Dr. Hunter is disposed to maintain that the excretion of such large quantities of

pathological urobilin appears extremely valuable evidence as to the essential nature of the disease, that it depends on an excessive destruction of blood, that it is hæmolytic in its nature.

In his former observations, his conclusions regarding the hæmolytic nature of this disease were based solely on (1) a consideration of anatomical changes to be found after death, and (2) on the possibility of inducing experimentally similar changes in animals by the action of blood-destroying agents.

BOGUS DIPLOMAS ONCE MORE.

When the notorious Buchanan diploma frauds were first made public, the matter attracted very great attention, as the business was a novel one, and its chief manager attained no small degree of notoriety. Like all criminals (perhaps one might say like all successful men) he had imitators, and diploma-mills have been so frequently exposed that further discoveries and exposures cease to excite any great interest. A state of affairs has, however, been recently disclosed in the States of Vermont and New Hampshire that deserves notice at the hands of the profession. This condition is very similar to that which existed but recently in Massachusetts. In the latter State the laws relating to the incorporation of business, charitable and educational associations were so lax that it was possible for a medical school to be incorporated under general laws and to issue diplomas with, at least, a semblance of legal right, without any actual existence save on paper.

The *Boston Herald* of Sunday, September 29th, contains an account, which fills many columns, of two definite diploma mills, and points out the probable existence of others. In the briefest possible terms the story is as follows:

Some months ago a practitioner of Buffalo presented as the evidence of his medical education a diploma issued by the "Trinity University, of Burlington, Vt.," an institution of learning of which the very existence was unknown to the physicians of Burlington or to the Secretary of State. A "Dr." Bradbury, of Nashua, N. H., was discovered to be the agent of the university; and from him a hardware dealer of Buffalo, succeeded in obtaining a diploma for the sum of sixty dollars, without any medical qualification whatever. It seems that all that is necessary to incorporate such an institution in Vermont is to make application to any town clerk for articles of incorporation, and they are granted forthwith. "Trinity" was found to have been incorporated in the town of Bennington, and a copy of the articles of incorporation is published in the newspaper quoted. There was also discovered at Rutland a document incorporating the "Vermont Medical College or Second Medical College of the American Health Society for Scientific and Benevolent Purposes." How many other such corporations may exist in the State is entirely a matter of conjecture.

Articles of incorporation of the "University of New Hampshire" were also discovered in the Secretary of State's office at Concord, bearing date of October 10, 1888. The names of the incorporators of this last concern, bear a striking resemblance to those attached to the "Trinity" of Vermont. Part of the correspondence with the representatives of these paper universities was carried on with individuals who gave addresses in Boston.

Various physicians in New York, Vermont and New Hampshire contributed no little time and pains to unearth the unpleasant details; and it is sincerely to be hoped that all parties concerned in the exposure will still further merit the gratitude of the public by laying the matter before the legislatures of the two States concerned, that, by a suitable amendment of the laws, the further growth of such bogus institutions may be impossible.

THE INDEX CATALOGUE. VOLUME TEN.

For the tenth successive year we welcome an additional volume of the "Index Catalogue." Each number increases the value of the catalogue, as it renders additional branches of medical literature more easily accessible, and thus gladdens the hearts of a wider class of studious practitioners.

The present volume adds to the index 7,658 author titles, 14,265 book titles and 29,421 journal articles, and contains words from *O* through *Pfutsch*. The total number of authors so far catalogued reaches the number of 107,788.

The contents of Volume X presents the same sort of fascination as its predecessors. The first thing to arrest attention in its pages is the series of titles catalogued under the head of *Observations*. It is a curious collection of articles, most of which have some reformatory object.

Obstetrics is introduced by a series of titles on *man-midwifery*, which illustrates many attempts to "dissect, expose and correct" a supposed "personal, domestic and national evil," as one of the titles run, and in general to discredit the male practitioners of the obstetric art, whose rejoinder may be read between the lines of the enormous number of titles which follow in the succeeding pages. The volume is evidently an important one to obstetricians as it contains also the articles on *Pelvimeter*, *Pelvis*, *Perineum* and *Perimetritis*.

The *Pension* list seems abnormally small. as it appears in the catalogue. The longest list of titles catalogued under a single word falls under the head of *Periodicals*. That list includes all the medical and scientific journals, and the transactions of medical and scientific societies in the library, arranged alphabetically by countries.

MEDICAL NOTES.

— The following appointments are announced at Clark University, Worcester: Prof. Arthur Michael, of Tufts College, professor of chemistry; Prof. J.

Playfair McMurrich, of Haverford College, docent in biology; Dr. Franz Boas, docent of the University of Berlin, docent in anthropology; B. C. Burt, of Michigan University, docent in historical psychology; Prof. Alfred Cook, of Bryn Mawr College, docent in psychology; Dr. Arthur McDonald, docent in psychology; Prof. Herman C. Bumpus of Olivet College, Michigan, fellow in biology.

— In addition to the election of Dr. Weir Mitchell, as President of the next Congress of American Physicians and Surgeons, to be held in September, 1891, which we have already noticed, Dr. W. H. Carmalt, of New Haven, was elected Secretary; Dr. J. S. Billings, of Washington, Treasurer; Dr. William Pepper, of Philadelphia, Chairman of the Executive Committee; and Dr. S. C. Busey, of Washington, Chairman of the Local Committee of Arrangements. Dr. C. H. Mastin, of Mobile, is reported to have declined the presidency, on the ground that no member of the Executive Committee ought to be elected to the presidency.

— A Medical Library Association has been incorporated at Chicago, to maintain a medical library; incorporators, Drs. Boerne Bettman, N. S. Davis, C. W. Earle and others.

— The Prussian minister of education, says *Science*, is turning his attention towards the study of the history of medicine, which seems to have been slowly dying out. There used to be a chair for this subject at every German university, but they have all become vacant with the exception of the one at Berlin, occupied by Professor Hirsch, the Nestor of the historians of medicine. To counteract this, it has been ordained that every newly-appointed professor of hygiene should give lectures on the history of medicine as part of his work.

— The second Congress for Tuberculosis will be held in Paris during the latter part of July, 1890. Professor Villemin will act as president. The following questions are to be discussed: (1) The identity of human and bovine tuberculosis, also that of other animals; (2) The bacteriological and morbid associations of tuberculosis; (3) The isolation of tuberculous subjects; (4) The agents capable of destroying Koch's tubercle bacillus, with a view to the prophylaxis and therapeusis of the disease in man.

NEW YORK.

SIXTH ANNUAL MEETING OF THE STATE MEDICAL ASSOCIATION.

— The sixth annual meeting of the New York State Medical Association was held at the Hotel Brunswick, September 25th, 26th and 27th. The attendance was large, including a number of well-known physicians from other States as well as New York, and the session was one of much interest. Dr. William T. Lusk presided, and the principal features of the meeting were the discussions on Tubal Pregnancy, participated in by Drs. Lusk, Thomas, Harrison and Isaac E. Taylor, of New York, Parvin, Goodell, Parish and Howard Kelly, of Philadelphia, Van de Warker, of Syracuse, and Wathin, of Louisville, Ky., and on the treatment of Hernia, participated in by Drs. Bryant, Dennis, Wyeth, McBurney and W. T. Bull, of New York, Tremaine and Roswell Park, of Buffalo, Squire and Charles W. Brown, of Elmira, Totman, of Syracuse, and Leroy J. Brooks, of Chenango County. The annual banquet was held on the evening of September 26th.

The following officers were elected for the ensuing year: *President*, Dr. John H. Orton, of Binghamton (Third District); *Vice-Presidents*, Dr. Douglas Ayres, of Fort Plain (First District), Dr. W. H. Burton, of Troy (Second District), Dr. E. Mott Moore, Jr., of Rochester (Fourth District), and Dr. William B. Eager, of Middletown (Fifth District); *Secretary*, Dr. E. D. Ferguson, of Troy; *Treasurer*, Dr. John H. Hinton, of New York; *Director of the Library*, Dr. J. W. S. Gouley, of New York.

DEATH BY ELECTRICITY.

— Engineer Charles F. Heinrich who was asked to assist professionally the State authorities in the Kemmler investigation, has written a letter to Mayor Grant in which he calls attention to the great sacrifice of human life caused by the high voltage of electric light currents and the criminal carelessness of the companies who neglect to guard and maintain the proper insulation of their wires and apparatus. Since May 6, 1887, he states, seventeen persons have suffered instantaneous death by high voltage electric currents in the city of New York, while a great many others have sustained the loss of limbs or been otherwise permanently injured from the same source. The coroner's inquests in such cases have never brought out the facts as they should have done, and he calls upon the mayor to order an investigation as to the deadly nature of the high voltage of electric currents used in the city, and to cause police regulations to be framed which will prevent the further sacrifice of human lives from this cause.

— Dr. T. Gaillard Thomas has resigned his position as Professor of Clinical Gynecology in the College of Physicians and Surgeons.

Miscellany.

PHYSICAL TRAINING IN PUBLIC SCHOOLS.

THE Fourth Annual Report of the Board of Health of Maine contains a useful paper by Dr. F. N. Whittier, director of the Sargent Gymnasium at Bowdoin College, on "Light Gymnastics for Schools." Dr. Whittier repeats the arguments (no less weighty because they have been given before, and no less important because they are habitually disregarded by school boards), in favor of systematic physical training in the public schools. For a striking confirmation of the proposition that such instruction improves the mental power of its subject he cites an experiment recently carried on by Dr. H. D. Wey at the New York

State Reformatory at Elmira. Wishing to give the theory a fair test, Dr. Wey selected twelve of the dullest boys in the school and gave them a thorough course in physical training, the boys themselves having no knowledge of the object of the experiment.

Their average rank in their studies for the five months immediately preceding the experiment was about 45 per cent. while during the five months' course in physical training their average was 74 per cent. and what is still better, they maintained their advanced standard during the six months following the discontinuance of the course; thus showing that the effect was permanent. In his report, Dr. Wey says, "With physical culture and improvement there came a mental awakening, a cerebral activity never before manifested in their prison life. Their faces parted with the dull and stolid look they had in the beginning, assuming a more intelligent expression while the eye gained a brightness and clearness that before was conspicuous by its absence."

That the physical training had also an effect upon their moral natures is made evident by the fact that Dr. Wey's records show that the gain in general deportment even surpassed the gain in scholarship.

Correspondence.

THE "PIONEER" SPECIAL NATIONAL MEDICAL SOCIETY.

MR. EDITOR,— In the JOURNAL of September 26th, you speak of the American Gynecological Society as the pioneer of special national medical organizations, and as having held its fourteenth annual meeting the previous week.

The American Ophthalmological Society held its *twenty-fifth* annual meeting last July, and the American Otological Society dates its organization only four years later, in 1868.

Truly yours,

HENRY W. WILLIAMS, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 21, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	683	312	23.55	13.80	15.00	2.70	2.70
Philadelphia	1,040,245	377	152	15.39	24.84	4.32	5.40	3.51
Chicago	830,000	362	167	32.20	7.56	13.72	6.16	8.12
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	156	56	16.00	19.20	8.96	6.46	1.28
St. Louis	450,000	165	63	15.86	7.93	7.93	2.44	5.49
Boston	413,567	184	77	22.14	16.20	9.72	4.32	7.02
New Orleans	250,000	—	—	—	—	—	—	—
Cincinnati	225,000	94	—	22.26	13.78	5.30	4.24	11.66
Washington	225,000	93	30	24.61	12.84	6.42	8.56	7.49
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	21	9	33.33	14.28	19.04	9.52	—
Charleston	60,145	50	21	18.00	12.00	10.00	2.00	—
Portland	40,000	20	10	25.00	10.00	15.00	—	10.00
Worcester	78,292	23	10	39.15	13.05	30.45	4.35	—
Lowell	71,518	43	23	32.62	11.65	11.65	6.99	11.65
Cambridge	65,552	25	10	32.00	12.00	20.00	4.00	4.00
Fall River	62,647	29	20	44.85	3.45	34.50	6.90	—
Lynn	53,334	23	—	—	11.65	—	—	—
Springfield	40,731	17	8	23.52	29.40	23.52	—	—
Lawrence	40,619	22	12	50.00	4.55	22.75	9.10	18.20
New Bedford	37,253	17	10	47.04	5.88	47.04	—	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	8	1	12.50	12.50	—	12.50	—
Salem	29,011	14	4	14.28	—	14.28	—	—
Brockton	28,813	9	3	22.22	44.44	—	11.11	—
Chelsea	28,167	13	6	23.07	15.38	7.69	—	15.38
Haverhill	26,058	7	2	42.84	14.28	42.84	—	—
Taunton	25,170	—	—	—	—	—	—	—
Gloucester	24,263	2	1	—	—	—	—	—
Newton	21,553	—	—	—	—	—	—	—
Malden	19,774	4	1	—	—	—	—	—
Fitchburg	17,534	10	5	30.00	10.00	30.00	—	—
Waltham	17,332	5	0	—	60.00	—	—	—
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	3	2	—	—	—	—	—
Quincy	13,728	3	1	33.33	—	33.33	—	—

Deaths reported 2,482: under five years of age 1,016; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 578, consumption 308, acute lung diseases 190, diarrhœal diseases 287, diphtheria and croup 117, typhoid fever 111, whooping-cough 18, malarial fever 16, scarlet fever 13, cerebro-spinal meningitis 9, erysipelas 6, measles 1. From whooping-cough, New York 8, Chicago 5, Boston, Washington, Worcester, Lowell and Fall River 1 each. From malarial fever, New York 8, Baltimore 4, Charleston 3, Philadelphia 1. From scarlet fever, Philadelphia 5, New York and Chicago 3 each. Cincinnati and Cambridge 1 each. From cerebro-spinal meningitis, Chicago 4, Philadelphia, Baltimore, Boston, Washington and Nashville, 1 each. From erysipelas, Chicago 3, New York 2, Brockton 1. From measles, Philadelphia 1.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,555,405, for the week ending September 14th, the death-rate was 16.7. Deaths reported 3,062: Infants under one year of age 879, diarrhœa 272, scarlet fever 72, diphtheria 56, fever 45, whooping-cough 45, measles 30.

The death-rates ranged from 13.2 in Derby to 31.4 in Plymouth, Birmingham 15.0, Bradford 14.2, Bristol 18.0, Hull 18.1, Leeds 17.4, Leicester 14.2, Liverpool 19.6, London 14.8, Manchester 21.1, Nottingham 14.7, Sheffield 18.7.

In Edinburgh 15.1, Glasgow 19.8, Dublin 24.5.

The meteorological record for the week ending Sept. 21, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.		Velocity of Wind.		State of Weather.[1]		Rainfall.	
Saturday, Sep. 21, 1889.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ..15	30.18	67.0	71.0	63.0	90	90	90	N.E.	S.	1	12	G.	O.	6.20	.05
Monday, ..16	30.06	73.0	78.0	68.0	86	91	88	S.	S.W.	14	12	O.	C.	4.00	.05
Tuesday, ..17	29.98	73.0	77.0	69.0	93	86	90	S.	S.W.	12	12	O.	O.	0.10	T.
Wednes. ..18	29.86	66.0	70.0	61.0	100	89	94	W.	N.W.	3	2	R.	O.	13.00	.77
Thursday, .19	29.56	56.0	60.0	51.0	100	70	85	W.	S.W.	21	12	R.	C.	14.15	.74
Friday, ...20	29.58	58.0	68.0	49.0	75	68	72	S.W.	S.W.	10	9	C.	O.	0.15	T.
Saturday, .21	29.47	59.0	64.	54.0	78	65	72	S.W.	N.W.	6	16	F.	F.	7.15	.26
Mean for Week.															

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 21, 1889, TO SEPTEMBER 27, 1889.

By direction of the acting Secretary of War, Major GEORGE M. STERNBERG, surgeon, having completed the duties assigned him in the War Department order dated February 4, 1889, S. O. 30, February 5th, A. G. O., is reassigned to duty as attending surgeon and examiner of recruits at Baltimore, Md. Par. 12, S. O. 218, A. G. O., September 19, 1889.

By direction of the Secretary of War, the station of Major LEONARD Y. LORING, surgeon, is changed from Fort Mojave, Arizona Territory, to Fort Wingate, New Mexico, and he will report for duty at the latter accordingly. Par. 7, S. O. 219, A. G. O., September 20, 1889.

By direction of the Secretary of War, Captain HENRY G. BURTON, assistant surgeon, will report in person on the expiration of his present sick leave of absence, to the commanding officer David's Island, New York, for temporary duty at that station, and by letter to the superintendent recruiting service. By Par. 3, S. O. 223, A. G. O., Washington, September 25, 1889.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING SEPTEMBER 28, 1889.

GORGAS, A. C., medical director, detached from Examining Board, and to hospital, Philadelphia, Pa.

HORD, W. T., medical director, detached from hospital, Philadelphia, Pa., and wait orders.

BOGERT, E. S., medical inspector, detached from New York Navy Yard, and to Examining Board.

MCMURTRIE, D., surgeon, detached from U. S. S. "Vermont," and to Navy Yard, New York.

BABIN, H. J., surgeon, ordered to the Receiving Ship "Vermont."

HALL, C. H. H., past assistant surgeon, resigned from the Naval Service, to take effect November 1, 1890, and resignation so accepted.

SOCIETY NOTICE.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of this Society will be held at 19 Boylston Place, Monday, October 7th, at eight o'clock. Readers: Dr. A. Post, Some Considerations regarding Spyhilis and Marriage; Dr. R. H. Fitz, A Case of Hæmorrhagic Pancreatitis.

T. F. SHERMAN, *Secretary*.

OBITUARY. D. A. GROSVENOR, M.D., M.M.S.S.

Dr. D. A. Grosvenor died at his residence on Elm Street, in Danvers, Mass., September 27, 1889. He had been gradually failing in health during the past two years.

Dr. Grosvenor was one of the oldest and best-known practitioners in Essex County. He was a native of Manchester, Mass., where he was born January 1, 1811. He entered Dartmouth College, and graduated in the class of 1834. He passed through the regular course of medical study, and then moved to the town of Rutland, Mass., where he commenced the practice of his profession. He remained there but a short time, thence removing to Danvers in 1839, where he had practised for just half a century. He leaves a widow and one son.

OBITUARY. MILTON LANE, M.D.

Dr. Milton Lane, a well-known physician of Lincoln, Neb., died September 16th, after a four days' illness, of acute peritonitis. Dr. Lane was born in Boone County, Ind., August 14, 1837. He read medicine with his oldest brother, Dr. T. H. Lane, at Lebanon, Ind., and afterwards graduated at the Jefferson Medical College, of Philadelphia. In August, 1863, he began the practice of medicine at Reelsville, Putnam County, Ind., and in 1879, he settled in Lincoln. From May, 1888, to May, 1889, he was the President of the State Medical Society.

BOOKS AND PAMPHLETS RECEIVED.

Proceedings of the New York Pathological Society for the year 1887. Printed for the Society. 1888.

Practical Notes on Urinary Analysis. By William B. Canfield, A M., M.D. Reprint. Baltimore, 1887.

A Year's Experience with Apostoli's Method, with Reports of Cases. By A. Lathorn Smith, B.A., M.D. Reprint. 1889.

The Climate of Southern California in its relations to Renal Diseases. By P. C. Remondino, M.D, San Diego, Cal. Reprint. 1889.

The Story of the Bacteria and their Relations to Health and Disease. By T. Mitchell Prudden, M.D., New York and London: G. P. Putnam's Sons. 1889.

Report on the Carbonic Acid Gas Treatment of Malarious Fevers. By Charles G. R. Naylor, M.R.C.S., London. Second Edition. Edinburgh: Maclachlan and Stewart. 1889.

Outlines of the Clinical Chemistry of Urine. By C. A. MacMunn, M.A., M.D. (Dub.). With sixty-four wood-cuts and plate of spectra. Philadelphia: B. Blakiston, Son & Co. 1889.

On the Respiratory Functions of the Nose and their Relation to certain Pathological Conditions. By Greville McDonald, M.D. (Lond.). New York and Boston: Houghton, Mifflin & Co. 1889.

A Manual of Minor Surgery and Bandaging, for the use of House-Surgeons, Dressers and Junior Practitioners. By Christopher Heath, F.R.C S., Surgeon to University College Hospital, London, etc. Ninth Edition. Phila.: P. Blakiston, Son & Co. 1889.

Saunder's Question Compends, No. 1. Essentials of Physiology arranged in the form of Questions and Answers. Prepared especially for students of medicine. By H. A. Hare, B. Sc., M.D. (Univ. of Pa.). Second Edition thoroughly revised and enlarged. Philadelphia: W. B. Saunders. 1889.

An Introduction to Pathology and Morbid Anatomy. By T. Henry Green, M.D., etc. Sixth American, from the Seventh English Edition. Revised and enlarged. By Stanley Boyd, M.B.B.S. (Lond.) F.R.C.S. (Eng.) etc. Illustrated by 167 fine engravings. Philadelphia: Lea Brothers & Co. 1889.

Saunders' Question Compends, No. 7. Essentials of Materia-Medica, Therapeutics and Prescription-writing, arranged in the form of Questions and Answers. Prepared specially for students of medicine by Henry Morris, M.D., late Demonstrator, Jefferson Medical College, etc. Phila.: W. B. Saunders. 1889.

Original Articles.

THE EARLY STAGE OF GENERAL PARALYSIS.[1]

BY CHARLES F. FOLSOM, M.D.
Visiting Physician, Boston City Hospital.

Lasègue, in his thesis as *professor agrégé* in 1853, described an initial stage of general paralysis of the insane, without the striking symptoms, then all but universally considered as necessarily marking that disease; and in a paper in the *Annual Report of the Academy of Sciences* in 1860. Brierre de Boismont published cases illustrating the same point, the most striking of which was that of a man who began thieving nearly eight years before the diagnosis of general paralysis was made. Voisin, in his exhaustive monograph on general paralysis in 1879, and Luys, in 1881, mentioned an obscure prodromal period, but yet, as in Lasègue's and de Boismont's cases, with marked, although not distinctive mental symptoms. It is not until the appearance of Professor Ball's work in 1883, and that of his former *chef de clinique*, Régis, in 1885, that I find in French special medical literature a clear statement of the very insidious and obscure character of the first symptoms of general paralysis.

Since Sander's article in the *Berl. klin. Wochenschrift* in 1876, the leading German writers on the diseases of the brain, especially Wernicke, Schüle, Krafft-Ebing and Mendel, in his admirable monograph, have described the beginning of general paralysis as being simply a change of character quietly developing, and, later, so slight an impairment of intelligence as to admit of patients continuing their usual occupations for a considerable time without any indications of diminished mental power noticed except by those who come in contact with them most intimately, and by them not thought of as indicating disease.

In Great Britain, Savage, in 1884, alludes to a prodromal stage in general paralysis, but as attended with developed rather than initial symptoms, although he admits that there are certain vague and variable nervous symptoms in which he always gives a guarded prognosis, and where he suggests that proper intervals of rest might prevent further progress; but Sankey, writing the same year, fails to recognize so early a stage. Clouston, in his *Clinical Lectures on Mental Diseases*, 1883, does not describe the initial or prodromal stage. Mickle, in the second edition of his painstaking monograph on general paralysis, in 1886, mentions a prodromic stage, but with symptoms marking some progress in the disease, although he states that "in the history of many a case do we find that some moral or other mental change in the patient, some perversion of the affective sentiments has been noticed long before the acknowledged onset of the disease"; and in the meantime it has happened that fortunes have been wrecked or characters ruined.

In this country, Spitzka, in his treatise on insanity, in 1883, defines the initial stage of general paralysis as so insidious in its development of symptoms that it is difficult to say anything positive as to its duration, and as marked by change of character, attributable to simple brain failure, especially in negligence of ordinary duties, or indifference to them.

The impression of general paralysis, however, almost universal among officers of insane asylums, and the medical profession, is of a disease in which the symptoms are early difficulty of speech, muscular tremor, and uncertain gait, accompanied by remarkable mental weakness and in many cases *manie des grandeurs*.[2] The only general medical text-books describing the obscure insidious stage are the second edition of Strümpell, and Pepper's System of Medicine; and excepting Meynert, the writers who have recognized it, so far as their opinions are given, agree with Voisin as to the impossibility of diagnosticating general paralysis in this early stage.

Indeed, the early period of the disease, as generally described, is a comparatively late stage, and excepting a few writers this statement held good, at least until a few years ago. With regard to the occasional articles in medical journals which have appeared from time to time within the last forty years, on the prodromal symptoms of general paralysis. reference has for the most part been made to particular acts rather than to a general mental state.

It is usually difficult for friends to describe the earliest traces which they observe of general paralysis, and I have never yet seen a case in which they suggested any suspicion of disease to the friends or the family physician. A distinguished pianist lost his fine appreciation and nice touch so that his conductor thought he had fallen off in practice. A wife spoke of her husband as being the opposite of himself. A daughter said that her mother did not seem the thorough lady she had always been. One was described as seeming different from himself, the change being indescribable; one as a little slower in speech and gait; another as slow and indifferent in dressing and apt to drop asleep; still another as seeming well, but disposed to put useful papers in his waste-basket, etc.

A man who recognized his own condition. said that he had not good will-power; and an Irish weaver, when his wife and daughter were trying to describe his earliest changed condition, which seemed to them purely ethical, interrupted them by aptly saying that he had lost his presence of mind. A number of cases have been described by Goldsmith and others, where a violent epileptiform or apoplectiform seizure was the first recognized symptom of general paralysis; but, in my experience, such attacks, like the unexpected and often at the time unexplained offences against decency or the law, have always been preceded for a considerable length of time by the initial indications. So, also, in those cases where a violent shock or an accident appeared to be the beginning, the real beginning was much earlier.

Indeed, a purely symmetrical impairment, mental and physical, is most difficult to detect or describe, and may entirely deceive even the physician, if he trusts to ordinary methods of examination entirely. A patient quite far along in the prodromal stage of paralysis, in this way, was erroneously made the subject of a clinical lecture, as illustrating physical and no mental signs of general paralysis. Another went almost directly from the consultation-room of a distinguished neurologist, with a certificate that he was of sound mind, to make some most unwise and embarrassing contracts, and then, after the excitement and exhaustion of a long railroad journey, wrote a letter giving his friends much anxiety, and causing them to at once hunt him up and take him home. He per-

[1] A paper (omitting reports of cases) read at the Annual Meeting of the Association of American Physicians, Washington, September 18, 1889.

[2] Bucknill and Tuke.

formed his clearly irresponsible act in such a seemingly responsible way in all particulars, that it would probably have been impossible to have had it correctly estimated by the courts. He has since died, a typical general paralytic, with all the symptoms of the books.

To the etiology of general paralysis I can add nothing new. As is well known, it arises most commonly under conditions of prolonged strain, mental, emotional, and physical, especially if joined with unaccustomed high living and alcoholic and sexual excess, or after syphilis. The Irishman who lives in great deprivation at home, where syphilis also is said to be rare as compared with the rest of Great Britain, seldom has general paralysis; but, as a hard liver in the great cities of Scotland, England and America, he has his full proportion. From five to nearly one hundred per cent. of general paralytics are reported by various observers as having previously had syphilis. Of Mendel's cases of general paralysis the percentage of syphilitics was seventy-five, and only eighteen per cent. in other forms of insanity — about four times as many; while Goldsmith found, by statistics collected in the Danvers Asylum, that six times as many general paralytics had previously had syphilis as the insane excluding general paralysis.

We must admit, I think, that taking into account self-deception of patients, and their conscious and intentional deceiving their friends and their doctor, at least two-thirds of general paralytics have previously had syphilis. If we assume, therefore, that one person in ten in a certain adult male community (from the age of twenty-one upward) has had syphilis, it appears that an individual having ever suffered from that disease has not far from twenty times as many chances of becoming a general paralytic as the rest of the community; and if the proportion should be one in twenty, the chances are respectively about forty to one, and so on. This proportion is too large to be accidental, and yet there are two reasons, beside the purely numerical one, why general paralysis cannot be accepted at present, at least, as being a stage of syphilis, namely, because, first, the usual remedies for syphilis, as I read the evidence, are of not the slightest benefit; and, secondly, because there is no known method of certainly differentiating, either clinically or post-mortem, those cases with and those cases without a previous history of syphilis. It goes without saying, that I exclude from consideration gross lesions of syphilis of the brain, of which endarteritis of the larger vessels is probably the most common, resulting in general cerebral degeneration, with symptoms somewhat resembling general paralysis.

To the pathology and morbid anatomy of general paralysis there has been no recent important contribution, unless we admit Meynert's theory, that preceding and causing the diffuse cortical encephalitis there is a functional vaso-motor disorder which he considers curable. His statement that the organic changes are marked, in point of time, by the patient's losing the power to realize his condition, is not supported by experience.

The question whether the diagnosis of general paralysis can be made in its actual incipiency is still under judgment. I do not know an instance where it has been successful. Indeed, it is not within my experience that a physician has been consulted so early. The absence of subjective symptoms and the lack of those naturally observed by others, as compared with the various forms of neurasthenia, for instance, are quite deceptive. But the change in personal traits or character, and the peculiar apathetic, indifferent, unconscious quality of the mental impairment, in uncomplicated cases, are unlike anything else. There is not the slightest doubt, however, that general paralysis can be diagnosticated with certainty far oftener than not, for a considerable length of time before what is usual now.

It is quite true that the signs of mental impairment may be ascertained only by a painstaking examination, that the patient may bear cross-questioning without manifesting any degree of loss of those finer qualities of brain, psychic and motor, coming last in a highly-organized and developed civilization, although it may at the same time be detected by the methods which I have suggested.

The very essence and nature of general paralysis imply and involve mental symptoms in some degree, and some motor impairment, however slight, even if only judged by the test of a minute examination of what the patient can do and how well or how ill he does it.

The symptoms may thus be recognized in a large proportion of cases, and at least suspected in most, certainly in those persons whose brains are so highly organized, who are so trained and cultivated that slight changes in the highest brain centres produce distinct, although difficultly appreciated, departure from their normal character and quality of mind. In an orchestral leader, for instance, the mental and fine mechanical operations are so complex and of such high order that the least fault is detected; in professional and business men a less degree of impairment is recognizable than in mechanics; in routine employments without much thought or nice muscular effort, a large degree of deterioration may be unnoticed. In day laborers an early diagnosis is simply impossible.

The earliest signs of general paralysis are of the slightest possible brain failure; if, for instance, a strong, healthy man, in or near the prime of life, distinctly not of the "nervous," neurotic, or neurasthenic type, shows some loss of interest in his affairs, or impaired faculty of attending to them; if he becomes varyingly absent-minded, heedless, indifferent, negligent, apathetic, inconsiderate, and although able to follow his routine duties, his ability to take up new work is, no matter how little, diminished; if he can less well command mental attention and concentration, conception, perception, reflection, judgment; if there is an unwonted lack of initiative, and exertion causes unwonted mental and physical fatigue; if the emotions are intensified and easily change, or are excited readily from trifling causes; if the sexual instinct is not reasonably controlled; if the finer feelings are even slightly blunted; if the person in question regards with a placid apathy his own acts of indifference and irritability and their consequences, and especially if at times he sees himself in his true light and suddenly fails again to do so; if any symptoms of cerebral vaso-motor disturbance are noticed, however vague or variable. Naturally there may be many or few of these indications in a given person. This group of symptoms seems very striking, but may be compatible with the performance of usual duties. They require careful and prolonged observation of the patient, and painstaking interrogation of his family and friends, for their detection. They are recognized perhaps as much

from the peculiar quality of the mental impairment, difficult to describe, as from its degree, and often antedate, at least in the time of their recognition, perhaps not absolutely, any physical symptoms, which, when they appear, may be so slight as not to be appreciated for a long time, except as an unusual sense of weariness on exertion, and perhaps attributed to malaria or rheumatism. Commonly there is loss of flesh — slight, moderate or excessive. A very great or disproportinate loss of physical power, especially in the legs, I have found to be due to a complicating peripheral neuritis.

We must not overlook the facts that there are elements of uncertainty in the early diagnosis of general paralysis, that there are few forms of mental diseases in adult life that it may not simulate in obscure cases, and that it may be confounded with Bright's disease, epilepsy, hysteria, lead or malarial poisoning, cerebral syphilis, or the long-continued abuse of opium, alcohol, chloral, and the bromides, so that not seldom an absolute early diagnosis is impossible. But there is a peculiar, indescribable kind of mental impairment which, with the vague physical deterioration, if not obscured by other conditions, may be sufficient to decide the diagnosis. Even the expression of the face and the general appearance of the patient are often characteristic. There may or may not be slight confusion, a sense of fulness in the head, headache, insomnia. Except for unusual physical as well as mental fatigue following effort, the patient may feel entirely well and not complain of anything. There is no indication from the eyes or the reflexes so early; the muscular tremor is, as a rule, less than in functional nervous disorders; the speech may be not noticeably affected to the family, and may be only like that of a person with lips chilled by the frost or slightly under the influence of wine. It may be necessary to have the patient read or copy several pages or even be under close observation for several days before any defect is observed in the use of the muscles, or it may be necessary to test him in a new place or occupy him in unaccustomed ways.

Finally, perhaps the distinguishing feature of this stage of general paralysis is the fact that the change observed consists in a symmetrical mental and physical deterioration which, like all diseases in which a vasomotor element is prominent, varies very much from time to time. It begins, or is first noticed, in those acts requiring the most complicated and highly coördinated effort, in the functions and powers coming last in development of the highly organized and trained brain. As the mind becomes decidedly less able and the muscles less responsive, with less coördinating power, and finally weaker, the heavy and then staggering gait, the hesitating, stuttering, and finally unintelligible speech, and the progressive dementia, may be slow or rapid in their advance.

The prognosis of the pronounced general paralysis of the books is so unfavorable that there are only exceptional remissions of the symptoms which last so long as to justify a few writers in calling them cures. Early symptoms, however, which in men of forty years of age, so far as we now know, almost certainly mean death, when occurring in a man of sixty are not incompatible with a fair recovery. In the stage of general paralysis which I have attempted to describe, it is true that there have been thus far only partial recoveries. But the indications are that a certain proportion of cures may be expected with more satisfactory treatment.

The treatment of general paralysis has thus far been most unsatisfactory from the fact that it is begun only very late; because a rest of a few months often brings such relief that further treatment is abandoned; because a remission which may naturally come in the course of the malady is too apt to satisfy the patient or the friends that the disease is at an end; and because our therapeutic measures have thus far proved, as a rule, so ineffective that we cannot often get our patients to consent to a great sacrifice of time and money, and all that goes with it, for a cure that at best may mean only comfortable uselessness for many years.

The travelling or stimulating life usually suggested ends in aggravation of the symptoms. Entire mental rest in a quiet place in a sedative climate, with simple food, abundance of sleep and moderate exercise, result in such improvement that there is every reason to suppose that such measures, if fully carried out, might do more.

SUBSTITUTES FOR OPIUM IN CHRONIC DISEASES.[1]

BY J. F. A. ADAMS, M.D., OF PITTSFIELD, MASS.

OPIUM is the most conspicuous article in the pharmacopœia. Its extraordinary efficacy in relieving pain, the versatility of its powers, and its reliability in emergencies, give it a preëminent standing. It is generally recognized by the medical profession as the most indispensable of drugs. But, while surpassing other remedies in its beneficient effects, it is alike remarkable in its power for harm. Hence, its medical use requires a degree of caution not less than that with which the surgeon handles the scalpel. When to administer and when to withhold it, constitute one of the gravest of medical problems. There are times when the dangers and disadvantages of this most brilliant of drugs seem wholly out of proportion to its benefits. A growing dissatisfaction with opium is the motive of the present paper, which is designed as an argument in favor of restricting the use of opiates to a greater degree than has hitherto been the prevailing custom.

The disadvantages of opium are these: (1) In an overdose it is an active poison. (2) In ordinary doses its benefits are largely offset by various functional derangements. (3) Its use involves the danger of the opium-habit.

(1) *Opium in an overdose is an active poison.* This, which at first sight appears the greatest of its disadvantages, is, in fact, the least; for the very imminence of the danger compels caution, and the dose can be so regulated as to reduce this danger to insignificant proportions. Hence, in careful hands, fatal accidents from opium are of very rare occurrence.

(2) *In ordinary doses the benefits of opium are largely offset by various functional derangements.* This constitutes an objection to opium far greater than the preceding; for the secondary effects of this drug are almost always prejudicial. These effects include digestive disorders, constipation, impairment of the hepatic function, headache, depression, and various nervous disturbances. Oftentimes these effects tend to keep up the very condition of the system which led to its

[1] Read at the Annual Meeting of the Association of American Physicians, September 19, 1889.

use: for instance, in gout, rheumatism and lithæmic neuralgia.

(3) *The use of opium involves the danger of the opium-habit.* That this habit is widespread there can be no doubt; for there are probably few physicians who are not cognizant of some such cases, and there are certainly many others which never come definitely to our knowledge. It is obviously impossible to get accurate statistics concerning a habit which is, for the most part, jealously concealed. The public prints are somewhat given to extravagant statements in this direction; but the estimate which places the number of opium-takers in the United States, exclusive of the smokers, at 150,000[2] does not appear exaggerated. In proportion to the number of alcoholic inebriates, this number appears insignificant; and yet it represents a vast amount of misery, for the slaves of opium are, in some respects, more wretched than those of alcohol. The worst feature of the opium-habit is, that its paralyzing influence upon the will renders it almost incurable. To renounce the habit is next to impossible without the aids which are offered by an institution. Even then relapses are the rule. A lady, whose case has come under my observation, has twice been "cured," as was supposed, in two different institutions, remaining three months in each. The first time she remained "cured" for just two weeks, and the second time she went direct from the institution to a drug-store to purchase morphia. The efforts of the excellent men who are lavishing their skill upon these unfortunate cases deserve to be better rewarded. That permanent cures are occasionally effected I know from personal observation, and yet the rarity of such cases is evidenced by the words of Dr. B. W. Richardson,[3] who says, as the result of a large experience: "I have never yet known an instance in which I could be quite sure that the fully confirmed habit has been absolutely or permanently abandoned. I may have heard of such, I have seen none."

It has been charged[4] that the medical profession is largely responsible for the prevalence of the opium-habit. That some cases do result from opiate prescriptions cannot be denied; but it is my belief that, in the practice of educated and respectable medical men, such occurrences are very rare. Physicians are incessantly warning their patients against the dangers of opium, and, as a rule, administer this drug with the utmost caution. The prime causes of the opium-habit are undoubtedly to be found in the unrestricted sale of opiates, and in the multitude of proprietary nostrums containing opium. Among the latter are included nearly all of the alleged "cures for the opium-habit."[5] It is true that the drug is usually taken in the first instance for the relief of pain; but this is constantly done without a physician's advice. When ordered by a medical man the dose is so regulated as to counteract the pain, and no more; but when taken ignorantly the dose is likely to be so large as not only to relieve the pain, but also to allow an excess which may cause intoxication. In those cases of inebriety, attributable to physicians' prescriptions, the fault usually consists in the unlimited renewal of the prescriptions — a great abuse which needs legal restriction.[6] If physicians, instead of writing prescriptions for opiates, would dispense all such remedies themselves, much good would result.

No doubt opiates are sometimes administered unnecessarily, for it is in the nature of things that this should occur. The pleadings of an impatient sufferer must at times influence a sympathetic physician to give opiates against his better judgment. Our people are, to a great extent, both self-indulgent and neurotic. They refuse to bear pain, and are apt to prefer the doctor who gives the quickest relief. It is pleasanter to give a hypodermic injection than to refuse it to a suffering and unreasonable patient. These influences cannot be ignored, for even doctors are human — at times.

In acute cases the use of opium is comparatively safe; for in such the number of doses is usually not large, and the patient is wholly under the physician's control. In the last stage of incurable diseases the objections to its use are still less. But in chronic cases opium needs to be used with the greatest caution, for here the unfavorable effects upon the system are the most marked, and the formation of the opium-habit in such cases is particularly to be feared. The reason for the latter is that the necessity is of longer continuance, and the patient being under less constant supervision, is liable to continue taking the opiate without the physician's knowledge. It is necessary, therefore, in such cases to abstain from the use of opiates whenever possible. This necessity is generally recognized by the profession, but opinions must naturally differ as to what circumstances imperatively demand their use.

The usual reason for giving opium is the belief that no other remedy is capable of accomplishing the result desired. Opium has hitherto been almost the only reliable analgesic; but recent discoveries in therapeutics have done much to lessen our dependence upon it, since they have placed within our reach several safer remedies which are capable of being used as substitutes. The avidity with which the new analgesics are seized upon by the medical profession and their powers tested is an indication of the deep-seated antipathy to opium, and the desire to be emancipated from its rule.

The family physician has ample opportunity to observe the necessity for seeking out such substitutes. Feeling the responsibility not only for the present but also for the permanent well-being of his patients, and deeply interested in the future of the rising generation, he shrinks from giving present relief at the cost of ultimate harm. He must almost inevitably hold the secrets of opium takers — few or many — and, seeing the cloud which overshadows them and their offspring, must grow more and more determined that the future of other families shall not, if in his power to prevent it, become so darkened.

[2] I. A. Loveland, M.D.: Quarterly Rev. of Narcotic Inebriety, October, 1888.

[3] Practical Notes on the Morphine-habit. Asclepiad, 1888, vol. v, No. 20.

[4] J. B. Mattison, M.D.: The Responsibility of the Profession in the Production of Opium Inebriety. Med. and Surg. Reporter, Philadelphia, February, 9, 1878.
Ibid. The Genesis of Opium Addiction. Detroit Lancet, 1884, vol. vii, p. 303.
I. A. Loveland, M.D.: The Morphine-habit. Quarterly Rev. of Narcotic Inebriety, July, 1888.
Ibid. The Abuse of Opium. Same Journal, June, 1889.
How the Opium-habit is Acquired. Ed. Journal of Amer. Med. Association, September 22, 1888, referring to Virgil D. Eaton, in Popular Science Monthly.
The Use and Abuse of Opium. F. E. Oliver, M.D. Third Annual Report Massachusetts State Board of Health, 1872.
B. F. Davenport, M.D., Seventh Annual Report of State Board of Health, Lunacy and Charity of Massachusetts, 1886, p. 190.

[6] Loveland: The Refilling of Prescriptions. Quarterly Rev. of Narcotic Inebriety, April, 1889.
J. C. Wilson, M.D.: The Causes and Prevention of the Opium-habit and Kindred Affections. Boston Med. and Surg. Journ., November 22, 1888.

The strength of the revolt against opium is shown in these words of Dujardin-Beaumetz.[7] "The older I grow the more chary I become in the use of morphine, for, despite the marvellous powers of this alkaloid, which is by far the most active of analgesics, its dangers and disadvantages are such that I reserve its employment for exceptional cases only."

We will now pass to a brief consideration of some of the remedies which can properly be regarded as substitutes for opium in chronic diseases.

FOR THE RELIEF OF PAIN.

The discovery of the analgesic powers of the antipyrectics is a notable event in therapeutics. Making due allowance for the enthusiasm which their novelty has excited, the fact is definitely established that these remedies are valuable additions to the pharmacopœia. It was not to be expected that they should be free from drawbacks, and naturally each has its defects and limitations. The two oldest of the group, antipyrin and acetanilid, have already been sufficiently tested to have their sphere of action pretty clearly circumscribed. Phenacetine is growing in favor; while exalgine has already made an excellent impression. These remedies have well-grounded claims to be regarded as rivals to opium. Their power for relieving pain is extraordinary, in many cases equal and occasionally superior to opium. They appear as a rule, however, less prompt and less certain, especially when pain is very violent. As an offset to this inferiority, they have the advantage over opium of being less dangerous, causing less derangment of the system and not leading to any enslaving habit. Their effectiveness in migraine; where opium is given, if at all, only as a last resort, and in the milder forms of neuralgia, is very striking. But the essential question which now concerns us is, whether they can be depended upon in severe forms of pain in which opium would otherwise be a necessity. That they do fulfil this indication much evidence is already on record.

Antipyrin, the oldest of this group, besides its antipyretic, antispasmodic, antidiabetic, and other powers, has proved itself a most valuable analgesic. Among the many writers who have borne witness to its efficacy in this direction, several have distinctly described it as a substitute for opiates. The following statements of this nature are referred to in Dr. Griffith's article on "General Therapeutics," in the *Annual of the Universal Medical Sciences* for 1889.[8] Fiske[9] reported that one patient who had used morphia for headache, obtained in antipyrin a satisfactory substitute. Milne[10] adds his testimony to its value in allaying pain and producing sleep, and it has with him almost entirely supplanted opium for these purposes. Wolfe[11] recommends it in painful conditions in which it is desired to avoid morphia. Bahnson[12] has used it with success in relieving pain, even in cases where opium has failed. Norton[13] found the relief of pain by it in dysmenorrhœa greater than that afforded by opium and belladonna suppositories.

[7] New Medications, p. 268. Translated by E. P. Hurd, M.D. The Physician's Leisure Library. George S. Davis, Detroit, publisher.

[8] In this article by Dr. J. P. Crozer Griffith, of Philadelphia; and also in the article with the same title in the same publication for 1888 by Drs. Pepper and Griffith, are found digests of the several reports upon this and the other new medications during the two years ending January 1, 1889. For later reports see the Therapeutic Gazette for the present year.

[9] Boston Medical and Surgical Journal, July 12, 1888.

[10] Weekly Medical Review, February 4, 1888.

[11] Therapeutische Monatshefte, June, 1888.

[12] North Carolina Medical Journal, July, 1888.

[13] Medical and Surgical Reporter, February 25, 1888.

As to the objections to antipyrin, the principal one is its depressing effect upon the heart when given in large doses. It is therefore contraindicated where the circulation is feeble; and the dose needs to be always cautiously regulated. Its use is also attended at times with other unpleasant symptoms, as cutaneous eruption, gastric disturbance, coryza, etc., which are to be regarded as inconveniences rather than dangers.

My own experience with antipyrin has given me a high opinion of its analgesic powers. Having ordinarily used it in five or ten grain doses for an adult, symptoms of depression have been very rare and never alarming; and the other unpleasant effects have been practically absent. Yet even in these moderate doses the effect in relieving pain has been very satisfactory. The cases of a chronic nature, aside from headache, in which it has proved itself efficient have been chiefly neuralgia and rheumatism. The relief has been complete in some cases, and incomplete in others; but the cases in which the remedy has entirely failed have been a very small proportion. Among the many cases of success with antipyrin, in my own practice, the three following are selected because in two of them it was substituted for morphia and proved equally efficacious in relieving pain, and also because it was used for such long periods that there seems to be no room for error. The first is a case of intercostal neuralgia, the second is one of protracted pain from the pressure of a morbid growth upon the brachial plexus, and the third is a case of facial neuralgia in which the effect was admirable, notwithstanding a weak heart.

CASE I. Miss B., aged forty; a neurotic invalid for many years; had been subject for five years, or more, to frequent attacks of intense intercostal neuralgia of left chest. For this she had been accustomed to resort to morphia, which alone would give relief. On March 26, 1888, I saw her in one of these attacks and ordered antipyrin, five grains every four hours. She was, as she expressed it, "wonderfully relieved," the effect being more prompt and decided than that of morphia. Subsequently, whenever she felt any return of pain, she would take a few doses of antipyrin and the attack would be aborted. The only severe attack which has since occurred, accompanied an attack of acute indigestion in the following May. This also was relieved by antipyrin. The correction of a slight uterine displacement in August was followed by a general improvement of the health, and the neuralgia has not returned since that time. She has taken no morphia since the antipyrin was first prescribed.

CASE II. Mrs. D, aged seventy-four. Twenty-two years ago this patient suffered an amputation of the left breast for supposed malignant disease. In August, 1886, she began to suffer from pain and numbness of the left hand and forearm, which were at times accompanied with swelling. Pressure upon the nerves was suspected, but nothing could be found in the axilla until more than a year later, when a hard mass was detected high up in the axilla, firmly adherent to the neck of the scapula in front. This has since grown upward, until now a growth of extreme hardness has made its appearance, both above and below the clavicle. For nearly three years this lady was a constant sufferer. Massage and galvanism aggravated the pain and blisters gave only temporary relief. At the end of a year she had become so worn out with pain that she began to take morphia, one-eighth to one-quarter grain at bedtime. This produced sleep, but caused so

much nausea and depression the following day that she took it as rarely as possible.

On January 23, 1888, I began giving her antipyrin in five-grain capsules, three times a day. This gave great relief during the day, but it was still necessary to take morphia at night. The pain now involved the whole arm and shoulder and the supra-scapular region. On March 5th, there was numbness of the thumb, index and middle fingers. On March 24th, there was complete anæsthesia of the ulnar side of forearm and hand, with hyperæsthesia of the radial side. Soon after this, all tactile sensation was lost in the hand and forearm, but the deep seated pain continued. So much disturbance followed the use of morphia that the antipyrin was increased to ten grains, three times a day. With this amount she became so comfortable that the morphia was only occasionally resorted to. She experienced no unpleasant effects from the antipyrin and was very happy to escape the nausea, constipation, and general depression which always followed the use of morphia. She tried several times to discontinue the antipyrin, but found it indispensable, as the pain never ceased unless it was taken. On the 8th of last June the antipyrin had ceased to have any effect, and the pain had become most excruciating. I then began giving her hypodermic injections of morphia, one-half grain at bedtime and one-quarter grain after breakfast. This was continued until June 20th; after which the pain being less severe, the night injection alone was given, and that in diminishing dose, until June 28th, when the pain ceased entirely and has not since returned. The arm is now completely paralyzed, and without sensation. The nerves are apparently so tightly compressed as to have finally stopped the pain.

The interesting feature of this case consists in the fact that for over sixteen months this patient was kept comparatively comfortable by antipyrin, and was obliged to take but little morphia, which latter drug was avoided, not from fear of the opium-habit but on account of its disagreeable after-effects.

CASE III. Mrs. S., aged forty-eight. This lady has an immense uterine fibroid. She had acute rheumatism five years ago, which has left her with a mitral regurgitation. Has been greatly depleted by menorrhagia for many years. In good flesh, but feeble and suffering much from faintness and other heart symptoms. I was called to see her October 31, 1888, on account of a severe attack of facial neuralgia. Antipyrin was given in five-grain capsules, three times a day, from which she obtained prompt relief. She felt no faintness nor increased weakness. Digitalis, which she had previously been taking, was continued at the same time.

This case is mentioned, because it was one in which large doses of antipyrin were contraindicated; and the propriety of giving it at all might be questionable; but the small amount given gave complete relief without any depression.

Acetanilid has already proved itself an analgesic of great value. By Dujardin-Beaumetz[14] it is even placed before antipyrin in this respect; but most other writers give it the second place. It possesses the advantage over antipyrin of being far less depressing and causing no eruption. Its fault is, that in large doses it produces cyanosis; but this appears to be less of a danger than a warning against excessive doses. The doses used by myself have usually been five and ten grains; from these neither cyanosis nor any other unpleasant effect has ever resulted. The effect upon pain has generally been less than that following similar doses of antipyrin; and it has latterly seemed best to give seven or eight grains as a minimum dose, instead of five. The chronic cases in which it has shown itself capable of replacing opiates have been rheumatism, especially in the form of lumbago, and dysmenorrhœa. In several cases of lumbago its administration was followed by relief as prompt and complete as would have resulted from hypodermic injection of morphia. In dysmenorrhœa, I have given it to several young ladies, whose sufferings had previously been so severe as to require the use of morphia. In all of these, the relief following acetanilid in one or two doses of five or ten grains, has been so prompt and complete as to surprise and delight the patients. Larger doses than these have been given by others with entire safety and a larger degree of success than has attended my own experiments with the minimum dose. Dr. Austin Flint,[15] for example, reports an obstinate case of sciatica not only relieved, but actually cured, in forty-eight hours by doses of forty to fifty grains.

Phenacetine. — This remedy, of more recent discovery than antipyrin and acetanilid, has been found by numerous observers to resemble them strongly in its analgesic powers. It appears to be safer than either of these remedies, since it produces neither depression nor cyanosis, unless used in excessive doses. For these reasons it promises to be a valuable addition to the pain-relieving medicaments. My own experiments with this drug have tended to confirm the views of others; but do not yet justify any decided expression of opinion as to its value as a substitute for opium.

Salicylic acid, and more especially its sodium salt, should be included in this list, on account of their favorable action in relieving the pain of chronic rheumatism. Though their effects are less certain and less brilliant in the chronic than in the acute form of this disease, yet they are of marked value in a large proportion of cases. The relief to pain is obtained through their curative influence on the disease — a marked contrast to the action of opium — which, though more efficient in relieving the pain, acts otherwise most unfavorably.

Other analgesics of great value are quinine, in neuralgia, especially the malarial variety; cocaine, used hypodermically; galvanism and massage. To these may be added all of those hygienic measures which, by imparting vigor to the system, tend to remove the causes of pain.

TO INDUCE SLEEP.

The dangers of opium, when used as a hypnotic, are even greater than as an analgesic; for pain, which is to some extent an antidote to opium, protects the system in part from its toxic influence. In simple insomnia, though often resorted to by the laity, it is rarely used by physicians, but is reserved for those extreme cases where other remedies fail. Until recently the only drug equalling opium in hypnotic power has been chloral hydrate; but this remedy possesses disad-

[14] De l'Acetanilide (Antifebrin), comme Médicament Sédatif au système nerveux. Bull. gén. de thérap., 1887, vol. 113, p. 97, do transl. Therap Gazette, 1887. 3d series, vol. iii, p. 577.

[15] A Case of Sciatica Treated with Large Doses of Antifebrin. New York Medical Record, December 1, 1888.

vantages scarcely less than those of opium itself. When, therefore, the milder hypnotics prove ineffectual, we naturally desire some safer remedy than either opium or chloral, but equal to them in power. This wish is at last realized in the discovery of the new hypnotics, paraldehyde, hydrate of amyl and sulphonal.

Paraldehyde is an excellent hypnotic, apparently as safe as the bromides, free from deleterious effects, though rather uncertain in its action; and only objectionable on account of its unpleasant odor, which is imparted to the breath. My own experience has convinced me that it is a valuable substitute for opium. As an illustration of its usefulness, the following case is selected; because in the last stage of a distressing disease, it produced sleep after opium had been used without success.

CASE IV. Mr. D., aged seventy-five, was attacked in May, 1888, with urgent cardiac symptoms, and was found to have chronic Bright's disease. He was seen by me from time to time in consultation. In the following August his condition had become very distressing; both lungs were congested at the base, there was effusion in both pleuræ, and the dyspnœa was very urgent. He could not lie down, and sleep was almost impossible. All sorts of anodynes were tried without effect; even morphia became useless. On August 22d, he was given paraldehyde in doses of half a drachm every four hours, sometimes increased to one drachm, and sometimes at intervals of two hours, according to circumstances. The effect was delightful; sleep was induced in from ten to fifteen minutes. He was able to lie down, and while asleep the breathing became much quieter. He would wake refreshed. The heart was not weakened, but, on the contrary, was temporarily strengthened. He died on the 7th of September; but the last sixteen days of his life were rendered quite comfortable by the paraldehyde. The agony of dyspnœa which he had previously suffered gave place to tranquil sleep, with diminished suffering during the waking intervals.

Hydrate of amyl is generally preferable to paraldehyde, being more reliable as well as more agreeable. It is found efficient in extreme cases of insomnia, including those due to the opium-habit. It is also available when a weak heart forbids the use of chloral.

Sulphonal is at present far more extensively employed than either paraldehyde or hydrate of amyl. Its agreeable effects and freedom from taste have already won for it an extraordinary popularity. It is applicable in all forms of insomnia, in insanity, and in the opium-habit. It is nearly free from danger, and induces no habit. It is not, however, free from objections. These have been found by Dr. Griffith[16] to be the following:

(1) Slowness of action.
(2) Effect prolonged into the following day.
(3) Uncertainty of dose.
(4) Unpleasant after-effects; which are, mental excitement, nausea, vomiting, dizziness, headache, languor, exhaustion, depression and a staggering gait.
(5) Frequent failure to produce sleep.

This author, while favorably impressed with sulphonal, expresses a decided preference for paraldehyde and hydrate of amyl; especially the latter.

My own experience with sulphonal has been very favorable. No unpleasant effects have been observed, except an occasional languor or drowsiness the following morning. I have also observed an uncertainty in its action; the same patient getting a retarded or imperfect effect on one occasion, and again a very powerful effect from a less dose. I have usually given ten to fifteen grains as an initial dose, and have rarely exceeded twenty, which amount appears quite safe and is ordinarily sufficient.

[16] Remarks on the Unpleasant Effects of Sulphonal. Therap. Gaz., May 15, 1889.

CHRONIC DIARRHŒA.

In chronic, as in acute diarrhœa, it is probable that no remedy has been used more largely than opium. The effects of this mode of treatment, however, are far from satisfactory. Among the veterans of the war, a very large number are still suffering from this disease. From official sources[17] I have learned that there were on September 6, 1889, 63,523 pensioners on the rolls, whose disability consists entirely of chronic diarrhœa; and this does not include cases in which pension is allowed for chronic diarrhœa and other disabilities. About one-eighth, therefore, of all the pensioners are disabled by this cause alone. That so great a number of cases remain uncured at this date, more than twenty-four years after the close of the war, during which most of these cases originated, is sufficient evidence that their treatment, whatever it has been, has not been attended with success. These men are ill-nourished and feeble; their diet is necessarily limited to a few articles of food, and exhausting attacks of diarrhœa are brought on by any trifling error of diet or change of temperature. These attacks often induce dysenteric symptoms. A small proportion only of these cases are probably at present under active treatment. Many rely upon some special remedy for temporary relief; some have discarded all medicine and try to keep the disease in check by diet alone. As might be expected, some have become opium-eaters,[18] though no such cases have come under my notice. Until recently, it has been my own custom to prescribe opium to some extent in such cases, though in very small doses; but during the past year I have treated these cases antiseptically with far better results. The remedy chiefly used, in my cases, is the sodium salicylate, in five to ten grain doses, three or four times a day. Though the number of cases has not been large, the results have been so far very satisfactory. In almost all of the cases the diarrhœa has been checked in two or three days, and the benefit has been more lasting than that following any other treatment. The digestion has improved, a greater variety of food can now be taken, and the various nervous symptoms which are apt to accompany this disease have been greatly relieved. Besides the soldiers, several of my cases have been ladies. In two of these depression of spirits has been a prominent symptom, and the relief to this has been quite remarkable.

Salol has also been used by me with success in chronic diarrhœa.

Naphthalin, which is highly recommended for the treatment of chronic diarrhœa by Henry,[19] Wilcox,[20] Peabody,[21] and others, I have not yet tried.

[17] Letter from the Commissioner of Pensions to Senator Dawes, to whom I am indebted for this information.
[18] Ira Russell, M.D.: Opium Inebriety. Quarterly Rev. of Narcotic Inebriety, Jan., 1888.
[19] Antiseptic medication, Trans. Assoc. of American Physicians, vol. iii, 1888.
[20] St. Louis Med. and Surg. Journal, March, 1887.
[21] Boston Med. and Surg. Journal, Feb. 24, 1887.

The antiseptic method, which has been extensively and successfully used in the acute forms of diarrhœa, promises to be very serviceable in the chronic form. Being entirely safe it may be used experimentally, without hesitation, and the effects thus far render it highly probable that it will prove of great benefit to a large proportion of the many thousands of war veterans who still suffer with this disease.

All of the antiseptic remedies which have proved valuable in chronic diarrhœa may properly be classed among the substitutes for opium.

The two following cases of chronic diarrhœa are appended as illustrations; one of them being an old soldier, and the other a lady.

CASE V. J. C., aged fifty-four, contracted diarrhœa in the army, and has suffered from it ever since the war. His stools are usually watery; when diarrhœa is relieved the bowels become constipated. He has to be very careful about eating; has grown very thin and weak; has much headache and dizziness; has been treated by myself at times for twenty years, and also by other physicians, with only temporary relief. On February 21, 1889, he came to see me with an unusually severe attack of watery diarrhœa, which had brought on dysenteric symptoms. He had from four to seven stools daily, containing mucus and blood. He had also much pain in the bowels, hips and legs, with headache. I ordered the sodium salicylate, ten grains four times a day in solution with glycerine and water. He came to see me eight days later, and reported that the symptoms were greatly relieved on the second day. Since then there had been one or two dejections daily, thin, but without blood or mucus; all of the pains had ceased, including the headache. The appetite was improved. He says he has never had any medicine since leaving the army which has affected him as favorably as this. He called again June 15th; he had then had two attacks of watery diarrhœa since March 1st without mucus or blood. Each time he resumed the use of the sodium salicylate and was relieved entirely in three or four days. He now has two or three dejections daily which are unformed but not watery. His general condition is much improved.

CASE VI. Mrs. G., widow, aged forty-five; was first seen by me in August, 1884. She had then suffered for some years with chronic diarrhœa, for which she had been treated without benefit. I gave her pills of nitrate of silver one-sixth of a grain, and opium three-quarters of a grain, three times a day, which checked the bowels for the time being. She was not cured, however, for the least error of diet brought on a return of the diarrhœa, and the movements were always watery. Her diet was restricted of necessity chiefly to bread and eggs. Neither meat, vegetables, nor milk could be digested. There were constant dyspeptic symptoms, emaciation, and great depression of spirits. Whenever diarrhœa returned severely she resorted to the pills, whose proportions were several times changed to find the minimum effective dose of opium, which proved to be one-quarter grain combined with one-quarter grain of the nitrate of silver.

In August, 1888, I gave her the sodium salicylate, five grains in capsule, three times a day after meals. One week later she reported that she had one stool daily of more consistent character than for years. There was much flatulence, however, and the experiment was tried of adding iodoform one half grain to each capsule. On September 27th, she reported that she was improving, but had occasional slight returns of diarrhœa, and the digestion was not very good. The sodium salicylate alone was thereafter given as at first. I did not see her again until January 28th, when she informed me that she had had no diarrhœa at all since September 27th. The digestion was better, though still not perfect; she could eat many articles of food which she had not been able to touch for years; she had gained much flesh and strength, and, above all, the depression was gone, and she was in the best of spirits. She had then taken the sodium salicylate continuously for five months. She said she thought, from the exhilarating effects, that it must be a stimulant. Since then her health has been excellent, and there has been no return of the diarrhœa. She has taken no opium nor any other medicine since January.

In bringing this paper to a close, let me say, by way of recapitulation, that we now have remedies at command which may be used instead of opium in many, if not all, of the chronic affections in which this remedy was formerly our main dependence. For producing sleep and for the treatment of chronic diarrhœa, we have at present certain hypnotics and antiseptics which are not only as efficient, but so much more satisfactory that we may practically lay opium aside, to be used only on rare occasions. As an analgesic, opium still stands at the head of the list for promptness and certainty; but the antipyretics which have been mentioned in this paper are capable of replacing it in probably the majority of chronic cases, and the relief which these agents afford is attended with less disturbance of the system than that which is induced by opium. In rheumatism, opiates have been very largely superseded by the salicylates.

In my own practice, opium has become a much less important element than it was a few years ago; and this change is attended with great satisfaction to myself, partly because, with other remedies, better results are obtained, and partly because the danger of helping to form the opium-habit is thereby much lessened. Slight as this dreaded danger may be when opiates are prescribed with caution, yet the danger is amply sufficient to cause us to rejoice in the recent valuable additions to the list of remedies which have come to be recognized as substitutes for opium.

A STUDY OF MALARIAL FEVER IN EASTERN MASSACHUSETTS.[1]

BY CHARLES H. COOK, M.D., OF NATICK.

UNTIL within the last four years intermittent fever, as an epidemic, was unknown in Eastern Massachusetts. Since the summer of 1885, it has prevailed, to a greater or less extent, in at least twenty-two cities and towns, — not counting places where there have been sporadic cases, — in the counties of Middlesex, Norfolk and Worcester; chiefly, however, in Middlesex County.

The geographical distribution of the disease is very interesting, when considered in connection with the following statement by Dr. Stimson (quoted by Dr. Holmes in his Boylston Prize Essay) in his memoir of Hopkington in the Historical Collections: "This town is situated thirty-two miles westerly from Boston.

[1] Read before the Medical Section of the Massachusetts Medical Society at the Annual Meeting, June 11, 1889.

There are two ponds in the town, from one of which issues one of the extreme branches of the Concord [now the Sudbury] River, and from the other, one of the extreme branches of the Providence [now known as the Blackstone] River. One of the extreme branches of the Charles rises in its southerly part. . . . Before the swamps were cleared and drained, the inhabitants used to be subject to the *fever and ague;* but since, there have been no complaints of that kind in the town."

If we study the locations of the twenty-two towns and cities before referred to, we find that they are situated on some one of the three streams which have each a branch rising in Hopkinton. On the Charles River the disease has prevailed in Milford, Bellingham, West Medway, Sherborn, Dover, South Natick, Wellesley, Needham, Dedham, Newton, Waltham, Weston, Watertown, Brighton and Cambridge, — cases in the vicinity of Fresh Pond. (No returns have been received from Franklin, Norfolk, Medfield and West Roxbury.)

On the Sudbury River malaria has prevailed in Ashland, Framingham, Wayland, Sudbury and Concord. On the branch emptying into the Blackstone River it has appeared in Hopedale, but not in Mendon and Blackstone so far as I have been able to ascertain. In the latter towns, however, the villages are not situated on the stream in question. It has been quite prevalent in Hopkington, the source of these three branches.

It has not appeared in Bedford, Carlisle, Chelmsford, Billerica and Lowell, — towns situated on the Concord River, — which river is formed by the junction of the Assabet and Sudbury Rivers at Concord. Neither has it gone up the Assabet from Concord to any extent, since only Maynard and Hudson report any cases, — the former, *one* as originating there, — the latter, "several well-marked cases during the past two years;" while Acton and Stow claim immunity; Marlboro', Northboro', Westboro' and Worcester, all situated northerly and westerly from Framingham and Hopkinton, have been free from the disease.

Of the towns near, but not adjacent to these rivers, Hyde Park reports that "we have some affections which have of late been attributed to malarial influences;" and a physician in Bedford, which is on the Concord River, writes: "I have not had a *true case* of intermittent, but I have had several cases that took on an intermittent character at some time during the fever. Most of the cases appeared in 1887–88; some in Lexington and part in Bedford." In Quincy, "there have been several sporadic cases within the past four years," and "malaria, not distinctly intermittent fever, has appeared to be an element in the cause of many cases of sickness."

Clinton, Leominster, and West Boylston, on the Nashua River, report entire freedom from the disease, and the same is true of Arlington, Lexington, Brookline, Jamaica Plain, Milton and Foxboro', while Braintree reports "three or four cases in the last few years," and Walpole a few cases, but no prevalence of the disease. It is very evident from the returns thus far received, that, as has been already stated, intermittent fever as an epidemic, or even to any extent, has been confined to those streams which have each one of them a branch from Hopkinton, a town where, in the early part of this century, "fever and ague" was indigenous.

Is this only a coincidence? Who will answer the question?

After this brief and very imperfect survey of the field in general, it may be of interest to study more in detail some features of the epidemic in two or three towns, especially Framingham and Natick.

In South Framingham, in the summer of 1885, intermittent fever made its appearance as an epidemic, and it has prevailed in that and other parts of Framingham until the present time.

In the summer of 1886, it appeared in that portion of Natick familiarly known as the "West Part," a locality west of Natick village, and also west of Lake Cochituate and Lake Cochituate reservoir. Very soon it become more or less prevalent in other parts of the town, especially in Felchville and on "Nebraska Plain."

I quote from Dr. Z. B. Adams's very interesting paper[2] on "Malaria in Eastern Massachusetts," read at the annual meeting of this Society in 1886, a description of the physical characteristics of the malarial region in South Framingham:

"The soil of South Framingham is a sandy loam of little elevation, resting upon an extensive bed of quicksand, which underlies all of the adjacent country, and is of varying depth and indefinite extent. This quicksand everywhere contains water, so far as known.

"On the south and east of the village lies a wide swampy region of some three hundred acres in extent, called Guinea Meadows, constituting the watershed of Beaver-dam Brook, a stagnant, obstructed stream, which empties into Lake Cochituate. These swamps, which are partly wooded, are composed of a retentive peat, spongy, and in some places of great depth. Into this bog the sewage of the village filters, or is led by means of ditches and drains."

Beaver-dam Brook, which drains the Guinea Meadows and empties into Lake Cochituate, flows through West Part, where malaria first found a foothold in Natick. The soil of this locality is also a sandy loam, with a subsoil of clay, and, very probably, quicksand near the Framingham line.

That portion of Felchville where malaria has been most prevalent, drains by gravity into a hollow south and west of the village. Just across this hollow lies "Nebraska Plain."

The soil in Felchville is gravel with a subsoil of clay; that of Nebraska Plain is gravel, with a subsoil largely of sand. The latter has an elevation of twenty to thirty feet above Lake Cochituate.

Attention is here called to the fact, — is it only a mere coincidence? — that the malarial districts in South Framingham and Natick are either closely connected in some way with marshy places which receive sewage drainage by gravitation, or else are upon a stream which drains such a locality. In connection with this may be mentioned another interesting fact. About seventeen or eighteen years ago the Boston Water Board built several settling basins on Pegan Brook, near its junction with Lake Cochituate, for the purpose of intercepting, so far as possible, the solid matter of various kinds which, through many channels, found its way into this brook. In the summer of 1888, these dams were taken away, the solid matter at the bottoms of the basins removed, and the banks were gravelled. At no time, neither before the dams were

[2] Med. Comm. of the Mass. Med. Soc. vol, xiii, No. V, 1886, p. 615.

removed nor while the work of excavating was going on, was there any outbreak of intermittent fever, either in the immediate vicinity of these basins or in that part of Natick village situated in the course of the prevailing winds from the direction of these basins.

As we have already stated, malaria *as an epidemic disease*, was unknown in Eastern Massachusetts until 1885. The opportunity thus afforded for a study of its natural history as influenced by the direction of prevailing winds, variations of temperature, mean temperature, rainfall, and barometric variations, far surpasses that which is afforded in a section where it has always prevailed.

It is greatly to be regretted that the physicians in the cities and towns where it has appeared, have not from the first kept accurate records of the dates and locations of the cases which came under their care. Had this been done there would have been available a mass of invaluable material for the study outlined above.

Through the kindness of physicians in Framingham and Natick, who, at quite an expense of time and labor, have looked through their records for these years, material has been collected sufficient for an interesting analysis of over six hundred and fifty cases.

For greater convenience in the study of these cases, as related to rainfalls, they have been divided into four classes.

(I) Where there was no rainfall for at least six days before either an outbreak or a marked increase in the number of cases, and no rain during the outbreak. (All cases which developed while there was less than half an inch of rain are included in this class.)

(II) Where there was rain at some period six days before, but no rain during the outbreak.

(III) Where there was no rain before, but rain during the outbreak.

(IV) Where there was rain both before and during the outbreak.

	YEAR.	NO. CASES.	PER CENT.	REMARKS.
CLASS I.	1886	66	40	No rain either before or during the outbreak.
	1887	91	39½	
	1888	115	44	
CLASS II.	1886	60	36½	Rain before, but none during, the outbreak.
	1887	60	26	
	1888	75	29	
CLASS III.	1886	29	17½	Rain during, but none before, the outbreak.
	1887	16	7	
	1888	49	19	
CLASS IV.	1886	9	5½	Rain both before and during the outbreak.
	1887	63	27	
	1888	20	7½	

NOTE. — In the preparation of this and the following tables the writer was very kindly allowed free access to the meteorological records of the Rev. Daniel Wight, of Natick.

In the following table the months are selected because they are the months in which intermittent fever was most prevalent.

Out of the twenty-eight months here tabulated, in eighteen the rainfall was *less* than the average, and in ten it was *more* than the average.

Table showing Average Monthly Rainfall from April to October for 1885–88, *compared with the monthly average for the ten years* 1873–82.

DATE.	APRIL.	MAY.	JUNE.	JULY.	AUG.	SEPT.	OCT.
1873-82	4.24	2.61	2.87	3.48	4.14	2.59	3.51
1885	5.08	3.89	**2.31**	**1.71**	5.70	**1.63**	5.00
1886	**1.70**	2.90	**.91**	**2.87**	**3.53**	3.35	**3.18**
1887	**4.04**	**.87**	**2.27**	**3.23**	**3.38**	**.98**	**2.36**
1888	**3.02**	3.95	**1.71**	**1.20**	6.68	9.88	4.41

Figures in heavy type indicate the months in which the rainfall is *below* the average.

A table of average monthly temperatures (omitted) shows that in 1885, the year in which the intermittent fever became an epidemic in Framingham, the months of special prevalence, August, September and October, were colder than the average for ten years; that in 1886, when it extended to Natick, the entire year, with the exception of April and November, was colder than the average for ten years; and that April alone is an exception in the months of greatest prevalence. In 1887 May and July are the exceptions, and in 1888 June and August. It is worthy of especial note that from July, 1885, the beginning of the epidemic, to October, 1888, out of twenty five months there are nineteen which were colder than the average.

It is a fact worthy of note, even though it may be of no practical importance, that it is shown by the table (omitted) that the barometer ranged *higher* every month but August and October for the four years of the epidemic, when compared with the preceding groups of four years; and it is shown by the second table that the range during the years of the epidemic, compared with the ten years' average, was higher in every month but August.

On January 27, 1887, a case developed in South Framingham, Dr. Palmer's child, where the average temperature for the day was only 8° F.; the morning temperature was –3° F.; the average for the six days before was only 35.11° F. — a fall of 19° F. during the night; 1.85 inches of rain on the 24–26th, and three inches of snow the 26th.

SUMMARY.

(1) That the disease seems thus far to have been limited to the cities and towns along the Charles and Sudbury Rivers and the branch of the Blackstone.

(2) That it seems to have travelled to the *East* rather than to the *West;* that is, in the direction of the prevailing winds, rather than against them.

(3) That it seems to have developed and increased in seasons *below* the average temperature equally well as in those above.

(4) That some of the marked outbreaks occurred in cold and wet periods, as well as in hot and dry seasons.

(5) That an "essential," as given by at least one authority — namely, that there must be an average temperature of at least 58° F. for twenty-four hours to *develop* the disease — does not hold good in this analysis; neither does another "essential" of an average temperature of at least 65° F. for twenty-four hours to produce an *epidemic*.

(6) That it seems to prevail more extensively in regions near wet and marshy localities than in regions near shallow bodies of water, even though the water has been the depository of sewage for years.

(7) That the marshy and wet places where it has prevailed most have received sewage-drainage either by sewers or by gravitation.

While I would not presume to say that any of these facts are conclusive, yet I trust it is not too much to claim that they are suggestive.

TREATMENT OF PNEUMONIA.

BY AN OLD M. M. S. S.

On his return to the city a few days ago the writer found upon his table a copy of a paper on "The Mortality of Acute Lobar Pneumonia," by C. M. Townsend, M.D., and A. Coolidge, Jr., M.D. He read this paper with great interest, not to say avidity. It is a remarkable document, of especial moment, very able and trustworthy, and one that must have a permanent and ever-increasing value. They found that under all kinds of treatment from the "heroic" to the "expectant," for seventy years past, in the one thousand cases they examined, "treatment . . . has not . . . influenced the mortality rate;" and that "treatment has not influenced the duration of the disease or its convalescence." These results are not surprising to one educated and brought up in the old practice — and who had observed much of that old practice, had followed it somewhat, but had early left it for milder if not more rational methods, with less and less drugging, even to non-interference. He had seen, as he thought very clearly, that, in spite of bleeding, blistering, nauseating and otherwise disturbing the patient, the disease itself pursued its own peculiar and destined "succession of processes" unimpeded by the distressful treatment — except in so far as the patients' comfort was abridged and their vitality reduced by it. He abandoned "the old way" at no small risk of popular disfavor and professional denunciation — for the people delighted in impressive measures, and the most esteemed professors publicly taught that to omit venesection was to invite a fatal result. If he had lost his first case, not bled and not blistered, it is doubtful whether he could have maintained his professional standing. But he found in that instance and in subsequent cases that the patients' comfort was greatly increased, and their dangers apparently diminished in proportion as the treatment was more palliative and less disturbing. To the best of his ability he sought to induce others to follow the example thus set them, or at least to avoid equally the depressing plans on the one hand, and the grossly stimulating on the other. So, too, were deprecated the violent attempts in later days to subdue prominent symptoms, however apparently threatening — such as high temperature, rapid pulse, quick breathing, etc. — and which may be, after all, merely normal attendants upon the usual succession of processes, and possibly necessary compensations only for diminished lung power.

Complications, physical defects, feebleness and age, of course, often render recovery impossible. A greatly esteemed classmate, an eminent physician, a few months ago, when told by his attendant that his disease was pneumonia, calmly remarked with an expression and tone that clearly indicated his full comprehension of the situation and the inevitable result, "seventy years, a feeble heart, and pneumonia!"

The writer has found that, other things equal, the more the disease can be left to itself, undisturbed, to run its own course, the less the distress and danger to the patient. Indeed, he has illustrated this in his own case. Having had, several years ago, an attack of pneumonia in the acute form, he persisted in its being left throughout its course wholly to itself; and when he heard his medical attendants at his bedside remark to themselves that "this is simply suicidal," had consciousness enough to say that he knew the risk and was willing to take it. Throughout the whole period of the disease and convalescence he did not take a particle of medicine or stimulant. Meanwhile, and for sometime following, his nourishment consisted of light, slightly-toasted bread dipped in hot milk, blocks of which, frequently offered, went to their destination with the least possible effort. When urged to take something more substantial in addition, he is reported to have said in his semi-delirium, "it is a good poultice for the inside as well as for the outside." The disease in this case was no longer than usual, and no more time was required for convalescence than after any acute disease in a dangerous form. No permanent injury remained from the attack.

The writer would fain believe that "a treatment that makes the patient as comfortable as possible, preserves his strength, and avoids everything harsh" (T. and C., p. 26) in any prevalent degree is "the present treatment," were it not for the frequent reports of cases wherein normal symptoms are irrationally combatted with the newer chemical poisons, or wherein feeble attempts are made to imitate the "cruel" measures of past "heroic" times — for example, see this Journal of September 5th inst., pp. 234–5; but if Drs. Townsend and Coolidge, by their invaluable paper, induce practisers of medicine to withhold their miscalled "remedies" and harsh procedures — seeing that many patients cannot safely bear drugs in addition to disease, and that "treatment" has no influence on the duration or mortality of the disease — and, instead thereof, to judiciously attend more especially to patients' comfort and sustenance, they will confer an inestimable boon upon many a prostrate mortal still suffering, even nowadays, from much, to say the least, useless dosing.

RECENT PROGRESS IN THE PATHOLOGY OF THE NERVOUS SYSTEM.

BY PHILIP COOMBS KNAPP, A.M., M.D.

CHANGES IN THE GANGLION CELLS AFTER STIMULATION.

The theory has for a long time been held that the change in activity in the central nervous system, that is, the performance of its function by any nerve centre composed of ganglion cells, was accompanied by some physical or chemical change in the cells. This theory has at last received demonstrative evidence in its favor from certain recent investigations. Korybutt-Daszkiewicz[1] has attempted to solve the question whether the activity of the central nervous system is accompanied by changes recognizable with the microscope. His experiments were conducted on two frogs

[1] Archiv. f. mik. Anat., 1889. p. 51.

of the same weight and sex. One was kept as a control, in the other the eighth nerve was stimulated by induction shocks for an hour. The cords of both were hardened and stained by Gaule's method with hæmatoxylin, nigrosin, eosin, and safranin. The nuclei of the ganglion cells were the point of chief interest. These stain red and blue, but he finds that 3.31 to 3.66 times more nuclei stain red in the stimulated frog than in the unstimulated frog. Hodge,[2] who has investigated the same subject, questions the accuracy of this method, thinking that the red nuclei are more superficial than the blue, and that the thinner the section the greater the number of red nuclei. Hodge's method was to stimulate one or more nerves on one side of the body, and then remove the corresponding spinal ganglia on both sides, keeping them together all the time in the hardening and staining fluids, and making simultaneous sections. The treatment is thus absolutely identical, the only difference being that one ganglion has had its nerve stimulated while the other has not. He finds that the stimulated ganglion shows distinct differences; the nuclei in its cells are smaller, the outlines are jagged and irregular instead of round, and there is a loss of open reticular appearance with darker stain. The cell protoplasm shows a slight shrinkage in size, it has a lessened power to stain or to reduce osmic acid, and it becomes finally granular and reticulated. The cell capsule also shows a decrease in the size of its nuclei. These investigations are practically the first undertaken upon this subject, and their importance as confirming the theory of nerve action is great. They indicate, moreover, the importance of employing similar methods in the investigation of so-called functional diseases of the nervous system, for they seem likely to render the old distinction between functional and organic disease of no value.

MULTIPLE NEURITIS AND MYOSITIS.

Senator[3] has recently reported two cases, one with autopsy, the other with examination of the muscles. Senator is of the opinion that one and the same morbid agent may attack together, consecutively or separately, different parts of the nervous system, and that typical neuritis is a systemic affection of the motor cortico-muscular tract. The sensory disturbances of neuritis mean, of course, that other parts of the nervous system are involved; these disturbances may be severe or primary, or they may be due to the secondary hyperæmia and swelling caused by disease of the motor fibres. The muscles, he considers, may be primarily diseased in so-called acute multiple neuritis. His first case was a man, twenty-seven, who had phthisis. Later on he had paralysis of the legs with contraction, muscular atrophy, diminished sensibility, diminished skin reflexes and loss of knee-jerk, and diminished mechanical irritability of the muscles. The arms exhibited similar symptoms although less severe. The muscles were tender and the nerve trunks very tender on pressure. Degenerative reactions were present. The cord was normal; the median and radial nerves showed slight changes, the sciatic showed interstitial and parenchymatous neuritis. In the biceps there was hyperæmia and a marked increase of nuclei, the gastrocnemius showed the same changes only more intense, with pressure atrophy of the muscular fibrillæ. No bacilli were found in the nerves, but fat cells were present. The second case was a man of thirty-three, with marked paresis of the legs without contraction. The muscles were flabby and wasted, the knee-jerks absent. No tenderness on pressure over the nerve trunks but the muscles were very tender. Sensibility not much disturbed. Degenerative reactions present. Bits of muscle were excised and showed marked hyperæmia, increase of nuclei and connective tissue, and wasting and loss of transverse striation of the fibrillæ. These changes, of course, may arise secondarily in muscles after neuritis or poliomyelitis, and Erb has advanced the hypothesis that they may follow purely functional disturbances of the motor cells of the anterior cornua, — an hypothesis which few accept. Senator holds that one and the same cause may act on various parts of the nervous system, giving rise to parenchymatous or interstitial changes, or both; that the nerves may be affected primarily and the muscles secondarily, or vice versâ, and that the part most affected is more probably the part first affected. He regards these cases as an indication that acute or subacute polymyositis may arise from the same causes as multiple neuritis and belong to it, and the morbid agent may also affect the cord.

PATHOLOGY OF TABES DORSALIS.

Oppenheim and Siemerling[4] report fourteen cases of tabes dorsalis with autopsies in which the peripheral nerves were examined. These autopsies were supplemented by the examination of the nerves in thirty-two other cases of wasting disease — tuberculosis, marasmus, inanition, senility, arterio-sclerosis, alcoholism, lead, typhoid, diphtheria, cancer, cerebral disease, sinus thrombosis and syphilis. In the majority of all these cases, including the cases of tabes, changes were found in the peripheral nerves, chiefly in the form of a parenchymatous degeneration, but occasionally an increase in the perineurium with an increase of nuclei. In many of these cases there were no symptoms pointing to the peripheral nerves. Tabes, however, is regarded by the authors as a disease which involves the peripheral apparatus, the sensory cutaneous nerves showing more marked degeneration in this affection than in other diseases, but there is apparently no definite relation between the degree of this degeneration and the intensity and extent of the disease in the cord. How far the symptoms of tabes depend upon this degeneration is still undetermined. The arms are usually affected in tabes long after the legs, and the first symptoms are generally noticed in the distribution of the ulnar nerve, which is given off the lowest of the brachial plexus. Although the ulnar nerve was often found degenerated the authors pronounce against the idea that the sensory disturbance is purely of a peripheral nature, as the peripheral lesions do not satisfactorily explain the symptoms, anæsthesia being found with nerves intact and vice versâ. In two cases, disease of the vagus nerve was found with healthy nuclei; here there were laryngeal symptoms probably due to the neuritis, analogous to the commoner oculo-motor disturbances. Beside the ordinary posterior spinal sclerosis, loss of fibres and atrophy of cells in Clarke's columns were noted.

Dejerine[5] has reported nineteen cases of muscular atrophy in tabes with nine autopsies, atrophy being a

[2] American Journal of Psychology, May, 1889.
[3] Zeitschrift f. klin. Med., xv, 61, 1888.
[4] Archiv. f. Psychiatrie, xviii, 98, 487, 1887.
[5] Revue de médicine, February, March, April, 1889.

symptom which he thinks is present in one-fifth of the cases. It is a late post-ataxic symptom of slow onset, and may continue for many years. It usually begins in the extremities, either in the feet, producing pes equinus, or the typical Aran-Duchenne type of atrophy in the hand.' Fibrillary twitching was never seen but quantitative and qualitative electrical changes were present. Contrary to the lesions found by Charcot and Leyden the motor-cells of the anterior cornua were in every case healthy. Slight changes were found in the anterior root in four cases, but in every case there was a pronounced degenerative neuritis of the peripheral nerves.

Oppenheim[6] has recently reported three cases of tabes with interesting autopsies. The first case began with slow micturition and headache, vomiting, ptosis and diplopia; later there were lancinating pains, paræsthesiæ, and attacks of dry coughing, like pertussis, and vomiting and diarrhœa. The pupils reacted to accommodation but not to light, and were unequal. There were partial anæsthesia, ataxia, Romberg's symptom and loss of knee-jerks. There were considerable difficulty in swallowing, rapid pulse, dyspnœa and much hoarseness with paralysis of some of the laryngeal muscles. Later there were oculo-motor paralysis and hemiatrophy of the tongue. There were degeneration of the ascending root of the fifth nerve, and disappearance of fibres in the gelatinous substance. The nuclei of the vagus accessory and glossopharyngeus were about normal but the ascending root (solitary fasciculus) and the other root-fibres were atrophied, and there was a very pronounced degeneration of the vagus and its branches. The right oculo-motor nucleus was atrophied. The gastric and laryngeal crises, the rapid pulse, dyspnœa, laryngeal paralysis, and disturbance in swallowing were all ascribed to the disease of the vagus. There were pain, paræsthesia and slight anæsthesia in the face due to disease of the trigeminal roots. The second case had also laryngeal paralysis with no nuclear or peripheral lesion of the vagus. The third case had a rigid feeling in the face, difficulty in chewing, talking and swallowing, ptosis, strabismus, anæsthesia of laryngeal and pharyngeal mucous membranes, and ataxia of the jaw. Here there was atrophy of the ascending root of the fifth and its sensory nucleus.

TREATMENT OF TABES DORSALIS.

Benedikt[7] once more advocates "bloody stretching" of the nerves for tabes. He reports the case of a man of forty years, with very severe tabes of four years' duration, who was unable to stand without support, whose ataxia was so violent as to throw him out of bed if he tried to move, and who had very severe pains. The right crural and left sciatic were stretched. Eleven days after he could walk alone, and could come to the out-patient clinique for galvanism. The pains disappeared for over a year, and the ataxia was markedly diminished, although he still had to use a cane. Two other cases were improved. The improvement is much less in the "bloodless stretching," and the percentage of success is larger if it is done as soon as the diagnosis is made. Specific treatment, which has previously been ineffectual, may be rendered active by it. The stretching causes a reaction in the diseased parts. This view has some support from the investigations of Tarnowski[8] who some years ago found that stretching the sciatic in dogs caused changes in the posterior columns.

By far the most important contributions to the therapeutics of tabes and other chronic diseases of the spinal cord has been the discovery of the beneficial effects of suspension. This was due to the accidental discovery by Motchoukowski[9] that, on suspending a tabetic who had also spinal caries requiring a plaster jacket, the symptoms were much improved. He tried it with fifteen patients, and found the pains and paræsthesia much improved, and locomotion became easier. In lateral and multiple sclerosis and diffuse myelitis no benefit was obtained. Charcot[10] repeated this treatment on ninety-one cases and found that in the majority the pains, paræsthesia and disturbances in locomotion were relieved. Erb,[11] on six cases, has found less benefit than most other observers; the gait was temporarily improved, the ataxia, pains, paræsthesia and vesical disturbances diminished. Eulenburg and Mendel[12] report forty cases of various diseases. No results were obtained in a case of myelitis and a case of traumatic neurosis; a case of multiple sclerosis improved; three cases of paralysis agitans were little affected. Thirty-four cases of tabes were treated, twenty-one of them persistently; of these five were much better, eleven some better, and five unimproved. The improvement was purely symptomatic; the knee-jerks and pupils were unchanged. Most of them slept and felt better, and the symptoms most commonly relieved were ataxia, vesical disturbances, pain, and difficulty in locomotion. Bernhardt[13] reports the same results from 220 suspensions on nineteen patients. Saundby,[14] in three cases, found improvement. Waitzfelder[15] found improvement in six cases, and Morton[16] in the same number. In one of Morton's cases the pupils reacted again to light. Dana,[17] on the other hand, found little improvement in sixteen cases of various kinds, six of them tabes. Weir Mitchell[18] states that his father employed this in 1826 to relieve the paralysis following Pott's disease, and that he has continued to use it ever since. He considers that some definite and beneficial change takes place in the cord itself, by straightening the spinal curve. De Renzi[19] reports a complete cure (!) of a case of chronic meningo-myelitis by five suspensions of two or three minutes each, the patient at the same time making vigorous movements with his legs.

The method of employing suspension is to suspend the patient in a Sayre apparatus, or a modification thereof, the feet just touching the floor, or free from it. Suspension should last from half a minute to three minutes, and should not be repeated oftener than every other day. During suspension the patient should raise the arms slowly a few times, so as to bring most of the weight on the neck. Beside the risk of breaking the apparatus and strangulation there is a risk of heart failure which must be borne in mind.

Most observers agree that the general feeling after suspension is better, and that micturition and locomo-

[6] Archiv. f. Psychiatrie, xx, 131, 1888.
[7] Wiener Med. Presse, February 24, 1889.
[8] Archives de Neurologie, May, July, 1885.
[9] Vratsch, Nos. 17-21, 1883.
[10] Progrès médical, Jan. 16, 1889.
[11] Centralb. f. Nervenheilk., July 1, 1889.
[12] Neurolog. Centralb. June 1, 1889.
[13] Deutsche med. Wochenschr., May 16, 1889.
[14] British Med. Journal, March 2, 1889.
[15] New York Med. Record, June 8, 1889.
[16] Ibid, April 13, 1889.
[17] Ibid, April 13, 1889.
[18] American Journal of the Medical Sciences, June, 1889.
[19] Ref. in Archiv. ital. per le malatie nervose, March, 1889.

tion are easier, and the pains and paræsthesiæ improve; the girdle feeling is apt to be obstinate.

[The reporter must admit that his own results from scanty data — only three cases of tabes and one of paralysis agitans — have thus far been negative, and have not at all confirmed the good reports of the majority of observers.]

SYRINGO-MYELIA.

Debove[20] has recently reported a case of probable syringo-myelia. The first symptom, except a painless arthropathy following injury, was muscular atrophy affecting the arms chiefly, of the Aran-Duchenne type, with some atrophy of the thighs, and scoliosis in the dorso-lumbar region. Tactile sensibility was intact, but there was complete analgesia, and also thermo-anæsthesia, most marked in the peripheral parts. There was also cystitis. Debove states that the affection is a destruction of the gray matter of the cord, of greater or less transverse and longitudinal extent. The white matter may be more or less injured. It is still in dispute whether the affection starts from the central canal or from a gliomatosis, that is, a destructive inflammation of the neuroglia. Starr[21] reports a probable case, with muscular atrophy and paresis, scoliosis, analgesia, thermo-anæsthesia and partial tactile anæsthesia, and ptosis and contracted pupil. He furthermore cites eight cases with autopsies, showing similar symptoms, reported by various observers. The affection begins by the formation of small cells and neuroglia-like substance near the central canal; these finally break down, forming a cavity of irregular shape, either unilateral or bilateral; the favorite seat of this cavity is in the lower cervical and upper dorsal regions. It invades both the anterior and posterior cornua, and occasionally the white matter. The symptoms are progressive muscular atrophy with paralysis; trophic disturbances, cyanosis, coldness, bullous eruptions, ulcerations, diminished sweat secretion, and atrophy and fragility of the bones; and peculiar sensory disturbances, loss of sensibility to pain and temperature in the parts affected, with intact sensibility to touch and location.

Roth[22] reports ten cases under his observation in which the diagnosis seemed probable, and regards the typical symptoms of the disease as the following: (1) Analgesia and thermo-anæsthesia; (2) Subjective troubles of sensibility (pain, etc.); (3) Motor troubles (paresis, twitching); (4) Trophic and vaso-motor troubles (muscular atrophy, cutaneous dystrophies, etc.). Muscular atrophy and partial anæthesia are regarded by him as important features in diagnosis as showing disease of the anterior and posterior cornua, syringo-myelia being the only affection known which may affect these regions alone. It has been confused with tabes, lateral and multiple sclerosis, progressive muscular atrophy and neuritis, but a careful study of the symptoms will lead to a correct diagnosis.

(To be continued.)

— The voice, as a means of personal identification, is of great value. It is reported that a war-veteran in Connecticut, almost wholly blind, recognized by the voice alone, a negro who was one of three escaping slaves halted by him when on guard, near Newbern, N. C., in 1861, twenty-eight years before.

[20] Gazette hebdomadaire, March 1, 1889.
[21] American Journal of the Medical Sciences, May, 1888.
[22] Archives de Neurologie, December, 1887, March, July, September, November, 1888.

Reports of Societies.

ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY. MEDICAL SECTION.

DISCUSSION ON MALARIAL FEVER IN EASTERN MASSACHUSETTS.[1]

DR. S. W. ABBOTT, of Wakefield: Dr. Cook's paper has additional value from the carefulness with which it has been drawn up, from the fact that groups of cases always have a definite value in the study of the history of any disease. I would discuss the subject more in the line of prevention than of therapeutics; prevention in the broad sense of the word, in the sanitary sense, and not in the line of mere prevention by the use of quinine or other remedies after the malady has occurred in the individual. I do not know that we can call malarial diseases communicable, but they are in a certain sense infectious. They are also to a certain degree preventable.

In order to understand the question of prevention, we must know the history and causes of any disease. We know more of the history of this disease in Massachusetts than of its causes. Its appearance in this State has been spasmodic. Dr. Holmes's admirable treatise on the subject shows this. He says that in the first century of the history of the colony there was but little known of it. In the second its occurrence was more frequent, perhaps more frequent than the increase in the population would warrant, and there is, perhaps, only one place in the State where it may be said to have a continuous history of twenty-five years at one time. I mean the lower part of the Housatonic valley.

In 1879 and 1880 it became prevalent at Lenox and Pittsfield, extending up into the valley of the Hoosac in the neighborhood of Cheshire, and as far as North Adams. In the Connecticut valley, there were cases at Springfield, Holyoke, Northampton, and other towns. In 1885 occurred the epidemic at Framingham, extending to Natick in the following year. Then there was a local epidemic in the town of Deerfield, beginning in 1886, including two hundred cases, which, for the population in Deerfield, was a very large number. There are certain points in regard to these towns that have something in common. The majority of cases, I might say ninety per cent. and more, were in the neighborhood of bodies of water. They are slow-flowing rivers, stagnant waters, marshes, meadows and swamps. At the malarial trial at Lenox on account of the Smith Paper Company's dam, it appeared that nearly all these cases were within a distance of less than one mile from the reservoir, extending some three miles back into Pittsfield, and some along the Cheshire reservoir. These are not natural bodies of water. They are artificially produced by damming streams.

There is a good deal of shallow flowage at Framingham and Natick. I do not say that they are causes, but they are conditions to be considered. We know the conditions of its appearance better than twenty-five years ago. One of the best American observers, Dr. Smart, of the United States Army, has given in "Wood's Reference Hand-Book" an excellent paper on the subject of malaria. Of course, we must recognize the value of German and Italian observations.

[1] See the paper by Dr. Charles H. Cook, on page 356.

Italy is the most malarial of European countries. Three conditions accompany the appearance of malarial troubles: heat at a continued temperature of 60° F., moisture, decaying vegetation, and, conjoined with these, a probable biological factor. In temperate climates, low grounds, marshes, and places subject to overflow afford factors favorable to its evolution. It may occur on dry soil, but is it not true that in the dry soil, and near the surface, moisture often exists?

There is one statement in the article by Hertz, in "Ziemssen's Cyclopædia of Medical Practice," which seemed to me to foreshadow some of the conditions that Dr. Cook has mentioned in this neighborhood, and they were written in 1873 or 1874, not more than ten years before the occurrence of this epidemic at Framingham. He says: "In case of the working over or turning up of the soil, as in building dykes and viaducts, in rooting out timber, and preparing the virgin soil for cultivation, organisms are brought to the surface, and not only the laborers engaged in such enterprises, but the inhabitants for miles around, are liable to this fever." Those conditions were certainly met with in South Framingham. Dr. J. F. A. Adams described this accurately by the term "tender exotic." It is occasionally epidemic here in New England, but we can hardly call it endemic. It comes here only when the proper climatic conditions are to be found.

Another preventive has been proposed, and that is the eucalyptus tree, which was introduced some fifteen or twenty years ago in Algiers, and also in Rome, for the prevention of this disease. One theory of its action was that it was a rapidly-growing tree; that the leaves would absorb much moisture, double their weight in twenty-four hours, taking that amount out of the soil. Others believed that an essential oil obtained from the tree had a disinfectant action. A colony of monks planted eleven varieties of these trees. Tommasi Crudeli says, however, that in 1882 every one of the monks was attacked. The theory was abandoned, and but little has been said about it since that time. The account may be found in the *Practitioner* of 1879, '80, and '81. Crudeli goes on to say that "The conditions essential to a permanent improvement of the soil are those of so modifying its physical conditions and chemical composition as to render it incapable of producing the malarial ferment." "The malarial poison is due to an organism which multiplies in the soil."

Several micro-organisms have been associated with this disease. Salisbury, of Ohio, made many observations in 1863, and claimed that he had discovered the malarial germ. In 1879 the bacillus of malaria was observed by Klebs and Tommasi Crudeli, and a year or two afterward an entirely different one by Laveran.

Tommasi Crudeli states more definitely the chief conditions necessary for its appearance: a temperature not less than 60°, a moderate amount of permanent moisture in the soil, and a ready access of oxygen to the strata that contain the ferment. The first is wanting in winter, the second is wanting in summer when we have prolonged seasons of drought and heat. If the malaria is due to moisture and heat, our efforts must be to remove the moisture by drainage. We cannot remove the heat. There is an instance in illustration in the town of Deerfield, already alluded to. There was an epidemic there of two hundred cases in two years. There is a ditch running from the town a long distance towards the north to drain a portion of the town. This ditch became filled with grass, and the drainage became imperfect. I understand the town authorities are at work upon it, and it may improve the condition of the town.

One other question is the possible effect of sewage. Does it have anything to do with the production of malarial fever? I mean sewage as distinct from drain-water. We generally speak of drainage as drainage for water. Sewage implies dirty water and water that generally contains fæcal evacuations. We do not have any evidence that malarial troubles are caused by what we commonly call filth, but rather by moisture, and that moisture may be clean water, or water free from household sewage.

DR. J. F. A. ADAMS, of Pittsfield: Berkshire County is now practically free from malaria. The late epidemic began in 1874, was at its height in 1880, and little has been heard of it since 1884. The foci of the poison were the mill ponds and the meadow lands adjacent; while the hills were nearly exempt. For example, the village of New Lenox, with a population of eight hundred, had three hundred and fifty-three cases of intermittent fever between 1878 and 1882, while hardly a case occurred at Lenox, two miles away and two hundred feet higher. Intermittent fever was most prevalent in dry seasons, when the water was low, and a large area of mud flats exposed to the sun.

An interesting study, in connection with this epidemic, is the apparent modifying influence which the malarial poison exerts upon typhoid fever. During the malarial epidemic, typhoid fever was unusually rare in Berkshire, but became gradually more prevalent as malarial fevers disappeared. But with this re-appearance of typhoid, a marked change of type was observed, the cases being characterized by mildness, a low death-rate, frequent absence of diarrhœa, and an atypical temperature curve, the chief peculiarity of which is a very high temperature in the first week. These cases have continued to appear up to the present time, but in diminishing proportion to the typical cases, which have increased while the others have decreased.

These atypical cases present every variation, from manifest typhoid, with some one symptom lacking, down to cases having no symptom but pyrexia. Such cases were not unknown before the malarial epidemic, but were far less common than they have been since. Similar cases have been reported by medical writers in various parts of the United States, especially in those where malarial fevers prevail. They have recently been well described by Drs. Atkinson, of Baltimore, and W. W. Johnston, of Washington.

Very similar cases have come under my own notice in Florida, where are found intermediate forms between remittents and a fever closely resembling typhoid. Such cases sometimes begin and end as an intermittent or remittent, with a continued fever between which takes on more or less of the typhoidal character. Between a continued malarial fever, if such a thing really exists, and the atypical form of typhoid, the diagnosis is not very easily made. Aside from the temperature curve, which we have seen to be variable, we have no gross test except the effect of quinine. More delicate diagnostic measures, not easily adopted in private practice, are Ehrlich's test and the microscopic examination of the blood.

Practically, in this State, it is safest to class as

typhoid all cases of continued fever, no matter how free from typical symptoms, for such cases frequently develop unexpectedly severe typical symptoms, such as hæmorrhage or even perforation.

DR. J. O. WHITNEY, of Pawtucket, R. I.: Malaria has existed in the Valley of the Blackstone River below Woonsocket Falls for eight or ten years. It exists there to-day. I live at Pawtucket, where it is estimated that last year there were two thousand cases out of a population of twenty-four thousand. There has been no change whatever in the water courses for fifty years. There has not been a new dam below Woonsocket Falls to my personal knowledge for forty-five years. In a portion of the city of Pawtucket, a mile from the centre, is a place called Hammond's Pond. The people who live in that vicinity have malaria most intensely. It starts from Providence and extends to Albion.

I was around Framingham and know that relatives of mine suffered from the disease. In houses with damp cellars I believe malaria is most liable to occur.

Aiken says: At New Orleans they have yellow fever, at St. Louis they have intermittent, and in the upper waters typhoid fever. He recognized but one poison, call it what you please. I think with Aiken that it is one and the same cause, modified only by the heat at New Orleans, and by the cold at St. Paul. But they have yellow fever at one place and typhoid at the other.

DR. J. R. BRONSON, of Attleboro: In the village of Hebronville, in the town of Attleboro, until the autumn of 1880 I did not see a case of intermittent fever. As Dr. Whitney has said, there has been no change in the streams since 1841. In that very locality where the initial case occurred, during the autumn when the streams were unusually low and a large amount of mud was exposed, there were cases of intermittent fever. I am told that last year cases were very numerous there. I believe, too, we have had less typhoid fever than we usually have, and it is milder than that which antedated the inception of malarial fevers.

DR. W. E. SMITH, of Boston: Previous to 1887, I was a resident and practised in Framingham, so that I was there during some of the epidemic of malaria. The Boston basins had been built and been in active operation some six or seven years previous to the outbreak of malaria in South Framingham; but they are three miles from this outbreak, so that a probable connection between them and the outbreak is obscure. Before, however, there had been a case of malaria reported in Framingham nothing was more common than to notice a changed condition of the atmosphere. There was a chill and a dampness in the air which had not been noted before the basins were constructed. At the same time, as Dr. Z. B. Adams records in his paper a few years ago, all the conditions usually considered favorable to an epidemic of malaria had been in constant existence in the basins, and yet no outbreak had occurred previous to 1885. Another fact was that a large area of swamp land (the Guinea Meadows mentioned by Dr. Cook), lying to the southwest of the village of South Framingham, was completely burned over only a few months previous to the outbreak of malaria, and it would seem not improbable that an avenue was thereby opened for the miasm to be blown in from this swamp land to the village, especially since it will be observed by the tables that the wind was southwest at the beginning of the outbreak.

A somewhat similar condition of affairs was present at Framingham Centre, where, however, the outbreak was not so severe. A few years after the reservoirs were built, a large tract of woods was cut down to the west of the village, between it and the basins, exposing here also a swamp, though of much smaller area than the Guinea Meadows. At present both swamps are again thickly overgrown. At the same time the basin to the west, beyond this swamp, was drained off just before this outbreak, exposing the mud bottoms to the summer heat; and as before noted, the prevailing winds were southwest. There have also been cases in Framingham Centre on Normal Hill, far above the Sudbury River or other streams, but the hill is full of springs and has a very wet soil.

Dr. Cook alluded to imperfections in the data of the disease during the outbreak of 1885. There were several reasons at that time for the large number of reported cases apart from the actual occurrence of the disease. It is probable, for example, that some cases were reported more than once, and perhaps under the circumstances unavoidably reported. The disease was a new one to the people, and at first they were naturally somewhat alarmed. They would have one practitioner give them a dose of quinine and the attack would pass away. If the chills returned, distrusting sometimes the first practitioner, they would call in a second, and so that case would be reported twice or three times. The disease is now I believe on the decline, according to medical reports, although it is possible that more cases now treat themselves without calling in a physician than in former years.

Although I believe in the influence of marshes over the disease, yet it is a fact that malaria began to appear in the northern part of the town, where the land is higher and marshes not so near, at a much later period than it appeared in the two villages mentioned. And there has been during the last three or four years an immense activity in cutting down the woods all through the north part of Framingham. Indeed, it seemed to me last week while revisiting this district, that to accomplish all the work that has been done, the axes must have been busy three hundred and sixty-five days in all the three years since I removed from the town. I do not say positively that this destruction of the woods has caused the outbreaks of the disease, but I do think it reasonable to consider that it may have had an influence upon both its causation and its spread.

This whole question of the influence of the forests upon the disease has received little attention hitherto from medical men, but it ought to receive much more. A case in point was related to me last summer by Professor Fernow, United States Chief of Forestry. The town of Abington, Maryland, had been entirely free from malaria until a forest between the village and the river had been cut down. Immediately a severe epidemic infested the place. The case is certainly an interesting one, and I wish it might encourage us to give the matter a little more scientific study in cases nearer home.

Little Johnnie Day lies here,
He neither cries nor frets;
He had just reached his thirteenth year —
Cigarettes. — *Troy Press.*

AMERICAN DERMATOLOGICAL ASSOCIATION.[1]

DR. H. G. KLOTZ, of New York, read a paper entitled

CLINICAL OBSERVATIONS ON INJECTIONS OF INSOLUBLE MERCURIAL SALTS IN SYPHILIS.

These injections seem not to have been used much in this country, and little has been written on the subject. It has been generally considered that the method should be resorted to only in cases of emergency. Fumigations are not always well borne, and there is some danger of injury to the air passages by inhalation of the fumes. The reader has used the cyanide, as a soluble form of the mercurial, but it is expensive, and causes a good deal of pain.

In private practice he had given 123 injections to twenty-three patients. It is better to have the patient lying on the face at full length to avoid sudden motions. The point selected for the injection is preferably about an inch outside the gluteal fold; this point is such that the patient can sit afterward without much discomfort. The needle should be stouter and longer than that used for ordinary purposes. It should be inserted with one thrust, and then should be held quiet for a quarter or half minute, until the quivering of the muscle has ceased. The barrel is emptied slowly, and a fold of the skin pinched up as it is withdrawn. No massage is to be used, and the patient should be enjoined from muscular exertion for several hours.

At the very beginning of the practice in the hands of the reader one or two abscesses followed the injections, but for the past two years he has not seen an abscess; when they did occur they were not very troublesome. Sometimes there is more or less painful swelling after the treatment, not followed by suppuration. The trouble followed the use of calomel in five cases, and after the yellow oxide it occurred but twice. Of the fifteen accidents, twelve were experienced after the use of calomel in water. It was noticeable that the use of calomel in oil never caused local trouble. Salivation seemed less frequent than after inunction. A slight diarrhœa was witnessed in one patient. One patient had a chill after the treatment, and this was followed by loss of appetite, a temperature of 102°, with pain in the chest and difficulty of breathing, accompanied by a few ronchi. The next day he was better, after profuse perspiration. It was probably an embolism of oil from the injected fluid. In one other patient there was pain in the chest, but nothing was found on physical examination and he was soon better.

All affections of the skin disappeared rapidly after two or three injections as a rule. The pigmented spots went rapidly, but there was not much effect upon the pustular lesions. In the tubercular syphilides there was a good effect at first, but it was not lasting, and the iodides had to be given. Mucous membrane affections were benefited. Persistent primary induration disappeared in one case after it had lasted a year. In two cases of tertiary syphilis the result was very satisfactory.

DR. TAYLOR thought this subject of mercurial injections was a good illustration of the fact that there are fads and fashions in medicine. Such methods would rarely have to be resorted to as an emergency treatment. He had seen it carried out in Charity Hospital, and it had added much to the discomfort of the patients. Taking into consideration the dangers of embolism, the occurrence of abscesses, the painful nodules that form and the pseudo-paralytic condition of the legs, it seemed to him there would be considerable objection to the use of this method of medication.

DR. MORROW had had an opportunity to watch the effect of these injections in a large hospital, and he would only reiterate his conclusions which had been given before the Academy of Medicine; namely, that it is a reserve treatment to be followed in those cases where the usual and better plan of administration by the stomach cannot be followed. The speaker could not see how any drug introduced into the tissues is transformed by any strange chemistry of nature into something more potent than if taken by the stomach. He remembered to have seen post-mortem examinations in cases that had died of some intercurrent disease, and the tissues about the point of injection were in such a necrobiotic condition that he had concluded it to be bad surgery to duplicate these results on a large scale. He had used the treatment in two cases in the last two years and he did not believe the results were any better than they would have been by other methods. A strong argument against the treatment is the fact that there are so many dermatologists who have immense numbers of cases passing through their hands and who reject this treatment altogether.

DR. ZEISLER thought that while the injections might be practicable in hospitals they should not be used in private practice to any extent. He had never had the courage to treat a patient with a method which seemed in many respects doubtful. He had always been satisfied with the old methods.

DR. BRONSON thought we should not condemn the method till we learned all that was to be obtained from it. It seemed to him to represent a very scientific line of treatment. For frictions, the speaker preferred the mercurial soap to the ointment.

DR. HEITZMANN said his son had given the injection in the most antiseptic manner possible. In the first case an extremely painful inflammation was the result but it did not form an abscess. Two weeks afterward a second injection was made, and an abscess formed. He had been discouraged from making another trial. He did not consider the objection to the fumigation, that it injured the respiratory tract, a serious one, for he had never seen such results.

DR. KLOTZ raised the point that private patients were the very ones on whom this treatment should be tried. He would always explain to the patient what the discomforts of the method were and he had never had any difficulty with them. Some of the patients whom he had treated liked the injections so much that they insisted upon having them afterwards. The objection to the use of inunction is the fact that the patients cannot do it thoroughly enough. Many bad results in the way of salivation, bone diseases and eczemas had been caused by the reckless use of inunctions. In regard to the post-mortem appearances, he had seen cases where no bad results could be seen at all. His total experience with the method had not been such that he felt that he could not go on.

SECOND DAY. — WEDNESDAY, SEPTEMBER 18TH. MORNING SESSION.

The following officers were elected: *President*, Dr. P. A. Morrow, of New York; *Vice-President*,

[1] Continued from page 344 of the Journal.

Dr. G. H. Tilden, of Boston; *Secretary and Treasurer*, Dr. G. T. Jackson, of New York.

It was voted to hold the next meeting of the Association at Richfield Springs, N. Y.

DR. BULKLEY presented the report of the Committee on Statistics.

DR. J. T. BOWEN, of Boston, and DR. C. W. ALLEN, of New York, were elected members of the Association.

DR. HARDAWAY, of St. Louis, presented the report of

A CASE OF LUPUS ERYTHEMATOSUS.

The patient, twenty-three years of age, was well until October, 1887, at which time some spots were noticed upon the nose. These were treated with chrysarobine salve by the attending physician, who considered it a case of eczema. The treatment brought on an acute dermatitis, which obscured the real disease for a time, but, on clearing up under soothing ointments, it was found that the disease was lupus erythematosus. The patient went to the hot springs of Arkansas after six weeks, and there it was considered to be eczema. In March, 1888, the eruption occupied the same area, and was of a dusky red color, the borders being sharply defined. Some improvement followed the use of sulphur and salicylic acid. For some reason a lead salve was ordered, and by a mistake of the druggist crystals of the acetate were put in it. The reader was called to see the patient, and found him with a temperature of 103°, with great swelling of the lymph glands in the front of the neck, and with the upper lip encrusted. On the second day the swelling of the neck was very hard, and there were some spots of eruption on the forehead, not quite reaching the hairy scalp. On the third day there were pustular and bloody crusts upon the cheeks, resembling pustular eczema, and some œdema of the throat was found. The temperature was 104.5°, probably due to the adenitis.

During the next two weeks the lower lip lost its crust and the fever abated, and within a month the disease had undergone complete involution. The glands became involved in a tubercular process all over the upper part of the chest. Hectic supervened, and he died suddenly of pneumonia after some days.

DR. TAYLOR was skeptical about the acute attacks of lupus erythematosus of Kaposi. In one case which Dr. Bulkley had in New York many of the clinical features of Kaposi's description were absent. It seemed to him that Kaposi had gotten hold either of cases of syphilis, or quasi-acute cases of iodide of potassium poisoning.

DR. GREENOUGH would question whether the fatal result was not due to the violent dermatitis that was twice set up, and which resulted in affection of the lymph glands rather than to the lupus erythematosus itself.

DR. SHEPHERD thought if the lupus had been left alone there would have been no glandular affection. In patients with a tubercular family history small irritations will sometimes set up glandular disease.

DR. R. W. TAYLOR, of New York, reported

A HITHERTO UNDESCRIBED FORM OF NEW GROWTH OF THE VULVA.

The reader deplored our lack of exact knowledge in regard to these interesting cases. In his studies he had found that the following were the views generally accepted as to the origin of the simple hypertrophic and ulcerative vulvar lesions, viz.:

(1) That they are identical in their nature with lupus, euphoniously called esthiomene (a term which should be discarded).

(2) That they are the result of essential and specific syphilitic causes in the great majority of cases.

(3) That they are due to some undetermined ulcerative process.

(4) That they may be the result of tuberculous infiltration. (This view is advanced by a few observers only.)

The reader would not hesitate to say that in the main some of these conclusions are false, and others partly true. The reason why so little has been done in this subject is because it has not been taken up by men thoroughly versed in syphilis, and because one man rarely sees more than a single case of the disease. The reader's own conclusions were these:

(1) That a large, and perhaps the greater number of chronic deforming vulvar affections are due to simple hyperplasia of the tissues, induced by irritating causes, inflammation and traumatisms. This fact had never before been presented.

(2) That many cases are due to essential and specific syphilitic infiltrations.

(3) That other cases are caused by the hard œdema which often complicates and surrounds the initial sclerosis of syphilis and perhaps localized gummatous infiltrations.

(4) That many cases are due to simple hyperplasia in old syphilitic subjects who suffer from chronic ulcerations of the vulva, long after all specific lesions have departed.

(5) That some cases, also in old syphilitics, are due to simple hyperplasia, without the existence of any concomitant ulcerative and infiltrative process, and seem to be caused by conditions which in healthy persons result in vulvitis only.

(6) That some rare cases are those of simple inflammation resulting from antecedent ulcerative and inflammatory conditions.

DR. TAYLOR had never seen lupus on the female genitals, although he had constantly looked for it. With regard to tuberculosis, his experience had been that the lesions were ulcerative and creeping rather than hypertrophic.

In this paper he would describe two cases coming under the last division. The first patient was thirty-five years of age, and had been perfectly healthy. In 1876 she had a suppurating bubo in the groin, and in 1887 a chancre between the left labium majus and minus. She was in Charity Hospital for eight months at that time, and finally went out with the ulcer healed. There was at no time the slightest trace or history of syphilis. In 1877 she suffered with excoriations about the seat of the chancre, and sometimes there was bloody oozing after hard work, or following the menstrual epoch. During the next nine years she earned a meagre livelihood, and was careless about the condition of her genitals, having occasional attacks of acute or subacute vulvitis.

She re-entered Charity in August, 1886, and was under observation until May, 1889, when she died. On entrance the vulva was the seat of a maroon, or chocolate-colored new growth which extended to the pubes and right inguinal region, and was accompanied by mild pruritus. The first thing she had noticed was

in 1884, when the left side of the vulva became thickened and of a reddish color, and this condition extended until she entered the hospital. Slight improvement would follow treatment, but during cessation of treatment at the menstrual period this improvement would be lost. During the winter of 1888 there was some difficulty in walking and finally she took to the bed and remained there till her death. No other diseases were at any time discovered.

The second case was very nearly like the first. The clitoris was lost in a mass of cicatricial tissue, and there was enlargement in the groin. The surface was brownish, sometimes dry and sometimes giving issue to a thin reddish serum. The growth extended superficially and backward. The orifice of the vagina became much contracted, admitting finally only a soft bougie of about 20, French scale. The growth was elevated from one to three lines only, but the elasticity of the tissues was wholly lost, the deeper structures being apparently gradually invaded.

The microscopic examination indicated that it was a benign growth; no bacteria were found in any of the sections. As to etiology, it was not syphilitic; it was not the local expression of a general infective disease. It seemed as if the starting point were the local inflammatory condition arising from the chancroid. At one time it looked like chronic serpiginous chancroid, but it never seemed like lupus or epithelioma.

The prognosis is bad, but perhaps it might be arrested and cured if seen in the early stages. Extirpation was out of the question. Various agents were used to induce healing, with moderate success. It does not give rise to secondary metastatic growths. At one time a systematic local and general antisyphilitic treatment was followed for some months, but without any good effects.

Dr. Greenough asked if the growth, in parts free from pressure, showed any tendency to exuberant growth.

Dr. Taylor replied that it did not. It was entirely flat.

Dr. Bronson said that he had seen the case, and at first glance it had the appearance of epithelioma. He could hardly conceive that an irritation acting for a time and then ceasing would start a process which could prove so rebellious. If seemed to him that there must be some specific cause at the bottom of it.

Dr. Heitzmann said that the clinical picture and the microscopical study are entirely at variance in this case. The process, he believed, was malignant. He had studied the sections, and found that the rete mucosum was not thickened, but, on the contrary, very much thinned. The papillæ are very much enlarged. The tumor was certainly a sarcoma. The history of lack of ulceration and attempts at cicatrization, and the fact that the lymphatics were not affected, tallied with the view that it was sarcoma. As no autopsy was made, it would be impossible to say that there were not metastatic formations.

Dr. Robinson agreed with the last speaker that the case was one of sarcoma.

Dr. Taylor said that while he could vouch for the clinical features, he had awaited with a good deal of interest the opinions of the last two gentlemen. It seemed to him, clinically, that it was something more than an inflammatory growth. The specimens had been carefully examined during a period of six months by Dr. Van Giesen, at the laboratory of the College of Physicians and Surgeons, and there was nothing hasty in the conclusions offered.

Dr. S. Sherwell presented a paper on

SOME GENERAL SUGGESTIONS IN DERMATOLOGICAL THERAPY.

(1) A simple method of treating scabies, which he had used to the exclusion of all others. He uses ordinary precipitated sulphur, which he has rubbed on the person, without undue violence, once a day, preferably on retiring. Some of the same is dusted on the sheets of the bed; on this he lays a good deal of stress. He advocates a simple bath, with change of clothing, twice or three times a week. If thought best, a mild ointment may be rubbed on the skin first, or we may use a little oil of sweet almonds.

(2) Eczema ani. Generally there is a slight fissure in the sphincter, or perhaps it is well up inside the sphincter. The reader never treats these cases without making a specular examination, and frequently he finds the crack or cicatrix. Stretching is not always necessary, as graduated bougies, passed every other night, and allowed to remain five or ten minutes, will give relief. Sometimes he washes out the bowel by an enema, and then uses as an injection the following:

Boracic Acid	℥ss.
Sulpho-carbonate of Zinc	ʒss.
Listerine	ʒij.
Water	℥iv.

Sometimes he alternates this with auto-insufflation of boracic acid and bismuth, well triturated.

(3) Eczema, of sycotic origin, upon the upper lip. Generally it is the result of irritant discharges. He would suggest that a careful attention to the underlying affection of the nostril will do much in the way of cure.

Dr. Bulkley was especially interested in the matter of the eczema upon the lip. He had been through all varieties of treatment, and had come to conclusions identical with those of Dr. Sherwell. He could recall many cases that came for treatment each winter, and who were better during the warm months. He would go a step further than Dr. Sherwell and look at the general condition of the patient, for some persons of catarrhal habit need proper internal medication.

In regard to the cases of anal eczema, he had seen fissures touched with nitrate of silver, and he is very cautious about the use of this remedy, for he had seen one case of general eczema set up, and the man was kept in bed for three or four weeks. He had used a solution of sweet spirits of nitre, fifteen or twenty grains to the ounce, applied with a tooth-pick or probe. In one case, where there was a large number of fissures, the application was made every day, and after several weeks a cure resulted. It may be followed by a soothing ointment of tar and zinc.

Dr. Zeisler believed that many cases of eczema of the lip were due to a diseased condition of the roots of the hairs, and, in his hands, the best treatment was depilation. He is positive that the catarrh excites the eczematous condition and the sycosis. He has no doubt that the catarrh is of mycotic origin, although it is not yet proven. The treatment by depilation is efficient, cheap, and does not cause any dermatitis.

Dr. Taylor spoke of the fact that dry sulphur is used to rub into the so-called "mange" of dogs, one variety of which is parasitic.

Dr. L. D. Bulkley, of New York, read a paper with the title:

WHAT REAL VALUE HAVE THE NATURAL MINERAL WATERS IN THE TREATMENT OF DISEASES OF THE SKIN.

It is the popular impression that natural mineral waters help certain skin diseases; that some are to be applied on the outside, and some are to be taken internally for the purpose of washing out the noxious agent. No doubt many cases are benefited, but any one who has seen many cases of the effects of natural mineral waters must be many times disappointed. The water is but one element in the case; hope and faith may play an important part. Then there is the change of scene, rest from ordinary occupation, and, perhaps, the enforcement of regular hours.

In Europe, most of the springs have resident medical advisers, but, unfortunately, there are few of them in this country. It should be remembered that in certain instances other appropriate remedies are being taken at the same time; witness the treatment of syphilis at the hot springs of Arkansas. But in any case it is the water, pure and simple, which contributes most to the cure. Most of the waters have little effect upon the skin, but reach especially the kidneys, liver, bowels, etc. We cannot always predict the effect of the water from its chemical analysis. Certain mineral waters are taken hot at the springs, but cold, or even in ice, when at a distance. In the case of iron, arsenic and bromine springs, the results are rather indefinite. Sometimes cutaneous diseases depending on debility will be improved. We have all seen cases of eczema which have been treated at the sulphur springs in vain. Where there is a rheumatic element back of the cutaneous lesion, no doubt some good can be received; but in those cases it is the alkaline water, and not the sulphur, which is of benefit.

Like all other remedies, the use of springs must be carefully prescribed in order to be of the greatest use. Probably more benefit is derived in eczema than in other diseases, and even then it should be toward the close of the case. First, should be used the alkaline and moderately purgative waters, and then a tonic course. Carlsbad is advisable where there is a large abdominal plethora. In acute cases the hot springs should be used. Care must be taken lest acute eczema be excited by the springs, for some very severe cases have been lighted up in this manner. In psoriasis, sometimes sea-bathing is of far more benefit than the mineral springs. In syphilis, little benefit follows unless other treatment is kept up. Acne will often be benefited somewhat, and the iron springs are better than the sulphur. The chief difficulty in the use of this treatment is the fact that these patients are not under supervision, and are apt to follow their own fancy or the guidance of the attendants at the baths.

Dr. Hardaway had lived in the vicinity of several springs, and had seen a large number of patients who had tried the treatment. A large part of the benefit, it seemed to him, was due to the fact that the patients are away from their business Undoubtedly some are helped by the water simply as water. In various gastric and intestinal disturbances which may lie at the root of an acne of the erythematous form, in people who are lithæmic, the water will act well. There are some persons who give up a dissipated, irregular life and spend the time quietly and regularly when at the springs. He had never seen any specific effects from the waters.

Dr. Klotz thought it a pity that the natural springs in this country, which he considered equal to those of Europe, should be so neglected.

Dr. Taylor spoke of the fact that there are so many social attractions at Saratoga, so that the patients are apt to be led away from the purpose of their visit. He had never seen any marked effects from the waters at Saratoga, but he had seen bad results, and he would advise persons with any renal or any commencing vesical or urethral trouble to leave the Hathorne water alone. In some of the patients who have what we call portal congestion the iron waters act very harmfully; some cases have been brought to the verge of death by persistently drinking the water.

Dr. Sherwell had had a case of erythematous eczema much injured by a trip to one of the sulphur springs. The patient returned in a pitiable condition.

Dr. Denslow had found that eczemas in his cold climate tended to become chronic, and had to be sent to a warmer locality. Those that were benefited most, as a rule, did not have much to do with the waters of the springs. He advised acute cases to have nothing to do with them at all. Where there has been any benefit it has been in the old chronic cases, and the acute cases have been aggravated. Even in that case, it seemed to him that the chronic cases would have been just as much benefited by the change to a warm climate, leaving the waters alone.

Dr. Graham, in answer to an inquiry made by Dr. Bulkley, said that the St. Catherine Springs and the Preston Springs had given good results, but generally in rheumatic cases, and he preferred the latter place for this class of patients.

AFTERNOON SESSION.

Dr. L. Heitzmann, of New York, read a paper on

DERMATITIS PAPILLARIS.

Benign tumors will not recur after extirpation; but there are many cases where tumors which are proven both clinically and microscopically to be non-malignant begin to recur after their removal, sometimes assuming a larger size than the original. Such tumors are known to the surgeon as recurrent fibroids. A simple fibroma may gradually change into sarcoma during the course of a series of operations for its removal. Sometimes the growth commonly called "moles" after their removal will recur in the shape of scars, which are generally called spurious keloid. In a patient of Dr. Nicolai the application of green soap caused the growth of large branching hard scars over the chest. On some people every wound of the skin will be followed by such a growth. Such a condition may follow an eruption of acne pustules; and these growths have been termed by Kaposi, dermatitis papillaris.

A negro who slept on a pillow filled with horsehair developed such growths upon the neck and occiput. In another case, that of a Hebrew gentleman, constant picking of a few acne pustules was the starting point of the disease. Kaposi considers the disease a primary one, but the author thought it secondary to the irritation arising either from an acne or from a sycosis. This view agrees with the opinion of Hebra, who called it sycosis frambœsiaformis.

What the cause is we do not know. Von Reckling-

hausen thought it followed the distribution of the nerves. In the experience of the reader this had not been true. It seems to depend on a peculiar activity of the skin which enables it to respond to moderate irritation. It is most common in negroes, in whom pricking of the lobes of the ear may be followed by such a growth. The Hebrew race is also prone to the formation of this recurrent fibroma. It is composed of interlacing bundles of fibrous tissue, with a large amount of protoplasm or medullary corpuscles between the bundles. Sometimes the latter become so great that it is called myxo-fibroma. The larger the amount of this free substance the more rapid the growth of the tumor. We also meet with indifferent corpuscles or medullary corpuscles, which point to rapid growth of tissue.

From a pathological standpoint the recurrent fibromata are allied to keloid and dermatitis papillaris. The papillary character is of secondary importance, depending on the regular distribution of the blood-vessels in the superficial layers of the cutis. Treatment is tedious. Caustics, cutting, and the hot iron are forbidden; they will aggravate the disease. Nitric acid may be applied cautiously. The history of one case, in whom operation was done in Vienna, was related, in whom the result was a great increase in the size and number of the growths. A three per cent. solution of salicylic acid seems to promise as well as anything.

DR. FOX had seen one of the cases of which Dr. Heitzmann had spoken. The patient refused operation and electrolysis was tried, great care being taken not to produce ulceration. Progress was very slow, but a portion of the growth was reduced to a level with the skin. Then the patient disappeared until last spring when he came back with the story that he had been operated upon in Vienna, and at that time he presented tumors considerably larger than when he was under treatment before. Since that time the speaker had treated an almost identical case occurring in a colored man. A study of this case had led him to believe that with the exception of its occurrence in the follicles, its occurrence in this particular locality, and perhaps its greater vascularity and tendency to suppuration, there was no difference clinically between this disease and keloid. It had occurred to him that the occurrence of the keloid on the sternum may have had something to do with the hair follicles there. He would question the exactness of making a distinction between true and false keloid; the history of the presence or absence of injury cannot always be depended upon. In cases of spurious keloid the speaker had seen excellent results from scarification and the application of acetic acid.

DR. BULKLEY had seen one case in a negro; he treated it with mecurial plaster, and thought it improved while under observation. He believed that if we could get the real history of the so-called true and false keloid we should find them all the result of traumatic causes.

Dr. ZEISLER protested against the view that the disease as described by Kaposi was not a distinct affection. In the case mentioned, even though there was a resemblance to keloid, which he would not admit, there were such prominent clinical features, such as the occurrence upon the occiput and the peculiar growths of the tufts of hair that we have no right to throw over the diagnose of Kaposi. Pure nitric acid, in one case of keloid upon the cheek, had caused entire disappearance without disfigurement.

DR. GREENOUGH mentioned a case where a number of keloidal growths appeared upon the sternum after application of croton oil in the treatment of a cough.

DR. KLOTZ would use salicylic acid in strength as high as ten per cent. With it he had caused the disappearance of keloids in one case.

DR. JACKSON, in a case of keloid upon the cheek, had tried salicylic acid, hydronaphthol plaster, mercurial plaster, and finally scrapings. The hypertrophic scar which followed was not removed by the use of scarification and acetic acid.

DR. DENSLOW had tried electrolysis for a period of several months on one of these cases, but without result.

DR. GRAHAM had watched with much interest for several years a case where he had observed from time to time keloidal growths appear upon the face, following a sycosis. The same patient had a keloidal growth upon the leg, at the scar of an old bullet wound. He had not dared to operate in the face of the emphatic advice of Kaposi.

DR. HEITZMANN said that pathologically there is not much difference between the lesions of dermatitis papillaris and those of keloid, although clinically they may differ.

DR. FOX protested against the great multiplication of names in dermatology. He thought that the term keloid of the occiput answered the purpose perfectly.

(To be continued.)

Recent Literature.

Lectures on Obstetric Nursing. By THEOPHILUS PARVIN, M.D. 16mo, pp. 104. Philadelphia: P. Blakiston, Son & Co. 1889.

These lectures, two in number, were delivered to the pupils of the Philadelphia Hospital Training School for Nurses. They are written in the author's well-known clear and polished style, and will richly repay perusal by those for whom they are intended. It is hardly to be expected that the average nurse will altogether understand and appreciate the author's remarks on the etymology of the word nurse, interesting as they are. Nor should the obstetric nurse look upon these lectures as embodying all that she should know, as a course of twenty-five or thirty lectures would be required in an adequate curriculum, combined with months of clinical teaching. This little book will serve rather as an outline, to be filled in by regular hospital instruction.

— In the *Lyon Medical* for August 4, 1889, Dr. Eloy publishes the following formulæ for the treatment of constipation in the new-born.

Monti and Widerhofer prefer mannite to manna in the treatment of constipation in new-born infants. Dissolve five to ten parts of crystalized mannite in 50 to 100 parts of water, one teaspoonful of this solution being given every two hours.

A preparation in great favor in Austria has the following composition: Powdered rhubarb-root, 45 to 75 grains; carbonate of magnesia, 45 to 75 grains; oil of fennel or anise, 80 drops. A pinch of this powder may be given three times daily.

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THE CLINICAL SIGNIFICANCE OF ALBUMINURIA.

THE importance of a proper interpretation of albumen in the urine, not only for purposes of medical prognosis, but especially in connection with the acceptance of life-insurance risks, appeals strongly to every member of the profession. The almost universal usage of insurance examiners is, we believe, to reject albuminuric subjects, or, at least, to defer their acceptance till repeated subsequent examinations have proved the absence of the offending substance.

Yet cases are accumulating in which it is claimed recovery has ensued after a temporary or periodical occurrence of albuminuria. Many such instances are collected in the extended monograph of the late Prof. Calvin Ellis, which formed the last of his valuable clinical and pathological studies.[1] Our English brethren in their annual meeting at Leeds have been considering the same subject; and their deliberations, albeit involving, perhaps, a "conclusion in which nothing is concluded," will have an interest for our readers.

Dr. F. W. Pavy, whose views of "cyclical albuminuria" are sufficiently well-known to the profession, opened the discussion, and, as might be expected, took the ground that albuminuria *per se*, in a patient presenting, after careful examination of all his organs and functions, no other aberration than the albuminous urine, need not necessarily militate against the safety of the insurance risk. He classified the cases under three heads: (1) those in which very small traces only are observed; (2) those in which there is a notable quantity of albumen, and that constantly; (3) cases of the so-called cyclical variety, where there is regularly a notable amount at one period of the day and an absence at other periods. The first group he considered the most favorable as to prognosis, the second least so, and the third of intermediate augury. Even in the second, he thinks that some cases run on without serious results arising, but admits that our knowledge does not at present permit us to differentiate such from cases of Bright's disease. Of cyclical cases he thinks a favorable opinion may be given, as a simple medical prognosis, but where the question of life-insurance is involved, suggests that an increased premium be required.

Dr. George Johnson, of the King's College Hospital, took a square issue with Dr. Pavy, and repudiated all "physiological" or "functional" albuminuria. Admitting that an albuminuric subject might have no symptoms, and might thus fall into Dr. Pavy's favorable classification, he claimed that such was merely a parallel case to that of a patient with cardiac valvular incompetence, who may live for years without any symptoms, but whose disease is not to be therefore diagnosticated as functional. The fact of the recently ascertained frequency of albuminuria he interpreted, not to show its lack of gravity, but only to indicate the necessity for universal urine-testing.

Dr. Maguire said he had found disorder of the circulation in all cases of functional albuminuria. The disorder was in the direction either of increased or lowered arterial tension. The former occurred in persons having a family history of Bright's disease; the latter in persons of weak circulation, in whom the albuminuria was essentially cyclical, though the latter peculiarity might occur in Bright's disease also.

Dr. Pye-Smith believed that there was no physiological albumen, and that functional albuminuria was for the time being pathological. He compared albuminuria with hæmoptysis, always serious but not necessarily indicating incurable organic disease. He would defer an insurance of the albuminuric subject rather than try to draw a distinction which was often impossible to be drawn.

Prof. W. T. Gairdner, of Glasgow, said that the occurrence of albumen after great physical or mental strain showed, not that the albuminuria was physiological, but that the strain — whether, for instance, in pedestrianism or in cramming — was unphysiological. He would, on the other hand, admit the term *functional* albuminuria. Its presence in a life-insurance applicant calls for postponement.

Dr. Rabagliati interpreted albumen in the light of the specific gravity. If the latter was above 1,020, it suggested beginning lithæmic nephritis. If below 1,010, it meant further advance of the disease. The Scottish Widows' Fund found the average death-age of albuminurics to be fifty-seven, and he advised considering that to be the life expectation of an albuminuric without casts or other definite lesion.

Dr. Saundby would accept for insurance "unquestionably" a case where the albumen disappeared after a period of recumbency. He would always reject a risk where there had been previous nephritis, and said that while he believed there were other innocuous forms of albuminuria, they were, for insurance purposes, at present, speculative, and should be taken only for short periods or increased premium.

Dr. W. J. Tyson thought the number of deaths from

[1] The Significance of Albuminuria as a Symptom. By Calvin Ellis, M.D. 1880.

Bright's disease was small, compared with the number of cases of albuminuria met with in practice. He lamented the popular knowledge of the usual significance of albumen, which gave patients much unnecessary anxiety and distress.

Dr. George Harley believed that the albuminuria of hepatic, cardiac, cerebral and pulmonary origin was associated with a specific gravity of over 1,015, and was thus distinguishable from the albuminuria of Bright's disease, which, being associated with disorganization of renal tissue and retention of salts, always had a lower density of the urine.

In general, the position that albuminuria is not necessarily of grave import seemed to be taken by Drs. Pavy, Tyson, Saundby, and measurably by Dr. Drysdale; Drs. W. T. Gairdner and Eddison, occupying a somewhat intermediate position, both said they looked upon albumen as a "danger signal." The more conservative view, which distrusts all cases that have been albuminuric, was held with more or less rigidity by most of the other speakers.

The physician who looks to the Leeds discussion to clear up the question of the prognosis of albuminuria will be much disappointed. The solution of the problem requires the answer to two questions. First, is albuminuria consistent with health? Second, if so, do we possess any means of distinguishing such cases from those in which it accompanies grave disease? The answer to the first question, which a decade of years ago would have been universally negative, is now given by an influential contingent of the profession as affirmative. The answer to the second question is not yet forthcoming.

CHIMAPHILA UMBELLATA AS A DIURETIC.

Abet, an interne of Cochin hospital, has been experimenting with this old diuretic herb in that hospital. He has tried the decoction, the infusion, the tincture, and other fluid preparations, lastly the soft hydro-alcoholic extract, only to recognize the superiority of the latter over all the other preparations. The hydro-alcoholic is thus made: Ten ounces of pipsissewa leaves are exhausted with alcohol at 90°, and a soft alcoholic extract is got by evaporation and concentration. The leaves that had been acted upon by the alcohol are now steeped for two hours in two quarts of water; the whole is then cooled and filtered. To this filtered liquid is now added the alcoholic extract, and after all the soluble parts are extracted, the whole is again filtered, and the filtrate is evaporated in a sea-bath down to the consistence of a soft extract. Ten ounces of the powdered leaves yield about three ounces of extract. This extract is given in doses amounting to two to four drachms a day. The formula according to which the drug is given is as follows:

Soft hydro-alcoholic extract of Chimaphila,	10 to 15	grammes.
Syrup Aurantii Corticis	25	"
Rum	10	"
Water	80	" M.

Of this preparation, a tablespoonful is given every two hours.

Experiments on animals proved that the chimaphila was not poisonous in any dose. Abet himself ingested an ounce and a half of the soft extract without experiencing any bad results.

Eleven patients in the hospital were treated by this diuretic preparation. All were cardiac patients with œdema and dyspnœa, who were making very little urine. The medicine worked well in all these cases but one; this patient was influenced by no diuretic but digitalis, The diuresis in some of these patients amounted to 5,000 grammes of urine in the twenty-four hours. They took daily in potion for a month and a half, from ten to fifteen grammes of the extract. The diuresis in all cases began with the second day, and remained at this maximum till there was complete disappearance of the œdema, when the quantity of urine fell to the normal figure.

The chimaphila seemed to have no special action on the heart.

THE NEW TÆNICIDES.

Areca nuts are brought from India, Ceylon and the Philippine Islands. The *Areca Catechu*, of which they are the fruit, is a palm. *Arecaline* is the active principle, and it is to this that the tænicide property of areca nuts is due. In its chemical composition and its properties, this alkaloid bears a marked resemblance to pelletierine, the active principle of pomegranate. Arecaline is an oily volatile liquid, with alkaline reaction, soluble in alcohol, ether, chloroform and water. With acids it forms soluble salts.

Areca nuts are given in the form of powder; the dose is from a drachm to a drachm and a half. The alkaloid has not yet been administered with tænicide intent.

The rules for the administration of the areca powder are much the same as those given for the administration of pomegranate bark or pelletierine. Arecaline being a poison to the worm, benumbing and paralyzing it for the time, the administration of the nuts must be followed by an active purge to remove the entire worm before it has time to recover from its stupor. It is well to precede the ingestion of the remedy by milk diet, and by a purgative or enema the evening before, that the intestines may be cleared of fæcal matters, and that the drug may have a better chance of coming in contact with the worm.

The helminth is generally expelled entire four or five hours after the ingestion of the remedy.

Another tænicide is the fruit of the well-known cocoanut, *cocos nucifera*. For a long time the albumen of the cocoanut has been prescribed as a tænifuge in countries where the *cocos nucifera* grows. Berenger-Teraud, however, says that he has made trial of this remedy a great many times, and only once out of twenty-four succeeded in obtaining the expulsion of the head of the worm.

Pariso, of Athens, writes that while he resided in Abyssinia where it is the fashion to have tape-worms,

he chanced to discover the tænicide properties of this albumen. On his return to Athens, he tested it thoroughly, and always with satisfactory results, the whole worm being expelled dead.

MEDICAL NOTES.

— The leper colony on the Sandwich Islands contained a hundred persons in 1884. At present the number is smaller and most of them are men. The government, according to recent reports, contributes $100,000 a year toward the expenses of the colony, and three years ago the king personally inspected it. The average duration of the disease is eleven years and the mortality fifty-eight per thousand. The local physician, Dr. Hoffman, is a victim of the disease.

— Liberia, the colored Republic on the west coast of Africa, founded by the American Colonization Society some forty years ago, is, according to Mrs. Jane Rose Roberts, wife of the late President Roberts of the young nation, utterly destitute of institutions in which her poor and sick people can be cared for. Mrs. Roberts is now in Boston. She has come to the United States for the purpose of presenting the facts in the case to the friends of Liberia. The hospital which is needed will cost $20,000, and Mrs. Roberts has thus far in hand $1,400, with $300 promised her by the American Colonization Society. The nearest hospital to Liberia is the one at Cape Palmas, about three hundred miles from Monrovia.

— The corner-stone of the American hospital at Teheran has just been laid, according to press dispatches, Hon. Spencer Pratt, minister of the United States to the court of the Shah, officiating. The ceremony was witnessed by a select assembly, comprising prominent members of the imperial family, high dignitaries of State, noted representatives of the different departments of the Persian Government, and the ladies and gentlemen of the resident American colony. The United States minister in an address explained the purpose of the hospital, and how the plan, first conceived years ago by the distinguished American physician at Teheran, Dr. W. W. Torrence, was at last put into execution through the latter's perseverance. The first donation to the fund for the erection of an American hospital at Teheran was made by Mrs. W. H. Ferrey of Lake Forrest, Ill., and amounted to about four thousand dollars. To this the American Presbyterian Board of Foreign Missions added five thousand dollars, which sum it is understood to have since increased. Further subscriptions have also been received from other quarters, and Persians of distinction have lent a generous hand to the undertaking.

BOSTON AND NEW ENGLAND.

— Gen. T. W. Hyde has put in an estimate of $60,000 for the erection of a suitable hospital at Soldiers' Home in Togus, Me., and Congress will be asked to appropriate that sum at the next session. The hospital accommodations at the home at Togus are entirely inadequate and far below those enjoyed at the homes in other sections of the country.

— Special Justice Bosson recently gave his decision in the Chelsea police court in the case where State Inspector Edwin J. Brown, under chapter 149 of the Acts of 1888, charged the school committee of Revere, through its chairman, Frank H. Dow, with criminal neglect in not providing proper ventilation in the Winthrop Avenue School-house. The testimony of the government tended to show that the only means of ventilation used in that school-house was through an eight-inch tin pipe, connected with a twelve-inch pipe, which had its ending in the chimney. This pipe would only allow two feet of air per minute to each scholar, while the sanitary regulations require twenty-five feet per minute. The defence was mainly that a proper notice was not given the school board under the law, and that the town, by refusing to appropriate money for ventilating purposes, practically absolved the school board from all blame.

Justice Bosson discharged the defendants. He said, according to the press reports, that the evidence tended to show that the school in question lacked perfect means of supplying fresh air and heat, the size, position and arrangement of the ventilating flues being probably insufficient for the demands made upon them during the class hours; but in order to sustain the prosecution the court must find that the school-house in question is not "ventilated in such a proper manner that the air shall not become so exhausted as to be injurious to the health of the persons present therein." That is, the court must not only find that there is a degree of exhaustion, but such a degree as to be injurious to health.

In the absence of all testimony as to the quality of the air, the absence of any proof that any injurious effects have resulted from the condition, and the entire absence of any medical or competent expert testimony on this point, the court felt obliged to find that the prosecution has failed to prove that there is such a degree of exhaustion.

NEW YORK.

THE LAYING OF THE CORNER-STONE OF THE NEW YORK ACADEMY OF MEDICINE.

— The corner-stone of the new building of the New York Academy of Medicine was laid on the afternoon of October 3d, in the presence of a large and representative gathering. The ceremonies were commenced by an invocation by the Right Rev. Henry C. Potter, bishop of New York, after which an address was delivered by Dr. A. Jacobi, ex-president of the Academy. In the course of it, he said: "The peculiar relations of the individual physician to the patient or the family intrusted to his care are widened in the relations of the profession to the public. Great epidemics take the place of a single case; the protection of a community depends upon skilled physicians. The Academy has furnished a consulting board to all the health de-

partment's hospitals. A committee of the Academy was intrusted with the inquiry into the report on the condition of quarantine. It was to its report that the first appropriation for the rebuilding of the quarantine station was due, and to its recommendations that improvements are being carried out at the present time. In this way the medical profession excludes epidemics and guards both physical health and the economic interests of the city."

Ex-President Grover Cleveland then delivered an address, the commencing and closing portions of which were as follows: "The congratulation and the satisfaction which attend this hour especially belong to the members of the Academy of Medicine. This is as it should be, for the exercises of to-day signalize an achievement wrought by their activity and energy, and give proof of their devotion and attachment to their chosen profession. To the members of this organization the corner-stone which we now lay is an honor, for it is a monument which marks an important advance in the attainment of the purpose of the Academy, as declared in its constitution, the promotion of the science and art of medicine. In these extensive foundations is also found proof of the progressive ideas of these earnest men, and their constantly enlarging estimate of what is necessary to meet the purposes to which their energy is directed. . . . I am sure that you are not inclined to ignore the aid you have received in the project you have undertaken from the laymen among your fellows. Nor can you forget that underlying all that you have done and all that you have received are our free American institutions, which encourage and give scope to every worthy effort, and which offer fitting rewards for intelligent and well-directed labor in every condition of life. You will not, therefore, I trust, deem it impertinent if I remind you that none of us are absolved from the duty of aiding in the maintenance in complete integrity of these free institutions, and that this requires the thoughtful care and attention of every citizen. You do much for your country when you raise the standard and enlarge the usefulness of your profession; but you do not accomplish all you can, nor do you discharge your full duty of citizenship unless you also attempt to better the condition of public affairs and give to political topics and movements the benefit of your trained thought and well-informed judgment. In this way assist in making safe and sure the foundations upon which rests the success and value of all your professional efforts and accomplishments. I hope when we shall celebrate here the discovery of our country that we may point out on this spot, in your completed building, a splendid monument of the progress of our medical education; a monument which shall not only prove to the stranger that our physicians are proud of their profession, but one which shall also be a reminder that those who govern within its walls do not forget in their devotion to the science and art of medicine their other duties of citizenship."

Miscellany.

HAIR PASSED IN THE URINE.

Dr. William O'Neil, records in the *Lancet*, (September 14th,) a case presenting the above certainly very rare symptom. The patient was fifty years of age, rather short and stout, and regular and temperate in his habits. Twelve months before he called on the physician, he began to suffer from irritability of the bladder; three months after this he noticed blood in his urine; and about five months subsequently to the hæmorrhage he discovered hairs in that fluid. The hairs at the outset were single and not very numerous, but as time went on they increased in number, and some of them formed little tufts. The patient sometimes felt a sense of weight and uneasiness in the region of the bladder but he did not seem to have suffered much pain, excepting occasionally when in the act of micturition the flow of urine was interrupted by clots of blood. The hæmorrhage from its commencement recurred every five or six weeks, but the bleeding was not very profuse at any time. In the attack preceding his calling the doctor, he thought, however, that he had lost more blood than on any other previous occasion; nevertheless he was still a ruddy-faced healthy-looking man. He had declined in weight, but this he accounted for by recently defective appetite, and from being frequently disturbed in the night by the irritability of the bladder. The patient's urine was abundant, averaging about four quarts a day. He drank milk freely. The specific gravity of the urine ranged from eight to ten degrees; the reaction of the urine inclined to alkalinity, and when free from blood it contained merely a trace of albumen, but no renal casts, mucus or pus. Floating in the urine or lying on the bottom of the chamber-vessel now and again could be seen particles of matter which the patient called "skins," and which to the unassisted eye looked like little bits of coagulated albumen or fibrin stained more or less with blood. Also in the urine at all times could be seen hairs more or less numerous, of various shades of dark and light color, and varying in length from half an inch to two inches and a half. He had drawn out of the urethra a few hairs four or five inches long. On looking at some of the ordinary hairs the majority of them were found to be light in color, and that the thick and thin ends are well marked, even in the most downy specimens. When the urine contained blood, the hairs assisted in forming little clots, which the patient had sometimes difficulty in voiding; indeed it was this fact that first drew his attention to the hair. The urine contained besides hair, blood corpuscles, epithelial scales and once pus cells.

With the exception of the bladder complaint the patient considered himself in fairly good health. His pulse was regular, his heart and lungs were sound and there was little or no increase of temperature. On account of the hæmaturia he was ordered gallic acid and hamamelis virginica, and when the hæmorrhage was subdued he took nitric acid, buchu, uva ursi, and strychnine. In this way he went on slightly improving until the sultry weather of August, when he was attacked by most violent diarrhœa and vomiting, and whilst in this state he was suddenly seized with apoplexy, which carried him off in a day or two. The patient's family is peculiarly susceptible to bowel

affections, which in its members generally assume a grave character, for two of his sisters and a brother had died of intestinal diseases of some kind.

Very unfortunately there was no post-mortem examination and it was impossible to say what the state of the bladder was that gave origin and growth to the hair which constantly appeared in the urine. The writer conjectures that the blood proceeded from a villous or papillomatous tumor of the bladder and that the hairs grew on the mucous membrane, from which they were constantly shed.

Correspondence.

[From our Special Correspondent.]

PARIS LETTER.

DISCUSSION AT THE SOCIETE DE CHIRURGIE ON THE ELECTRICAL TREATMENT OF UTERINE FIBROIDS. — PROFESSOR CHARCOT AND THE SALPETRIERE.

PARIS, September 20, 1889.

A long discussion has lately taken place at the Societé de Chirurgie on the electrical treatment of uterine fibromata compared with the other methods. The debate was introduced by Dr. Lucas-Championnière, who read a note giving the results obtained by him conjointly with Dr. Léon Danion, a well-known electrician in his service at the Hôpital Saint Louis. If there still remains a good deal to study on this subject; if there are other indications to be investigated; if it is true, in fine, that surgery can alone pretend to the radical cure of uterine fibromata,—the conclusions of Dr. Lucas-Championnière are not the less very favorable to the treatment which he classes, without hesitation, in the first rank among the medical means employed in the treatment of this class of affections. This communication provoked a discussion in which several members of the society took part, — among them may be named Drs. Bouilly, Schwartz, Kirmisson, Segond, Trélat, Le Dentu, Berger, and Tillaux, all well-known surgeons, who have supported, and some of them have even accentuated, the conclusions of Dr. Lucas-Championnière. Others, a few in number, with Drs. Terillon, Polaillon, and Terrier, expressed themselves as little or not at all favorable to this mode of intervention. That which gives a great value to the judgment of the principal members of the Societé de Chirurgie is, that nearly all of them are distinguished laparotomists, and that the surgical successes of Dr. Lucas-Championnière in particular are most remarkable. Another circumstance which gives to this communication a still more interesting character, is the fact that Dr. Léon Danion, who for several years has endeavored to examine thoroughly this question of electrotherapy, has modified profoundly in basing his investigations on physical and physiological grounds, the ordinary procedure adopted by others. He acted, nearly always, simply in the cavity of the uterine neck, and only utilizing intensities never exceeding sixty or sixty-five milliampères. He has, therefore, suppressed the higher intensities and the intra-uterine action; but he practises the reversing of the current, which appears to give to the treatment a considerable activity, as testified by the history of eleven patients whom he had treated in the wards of the eminent surgeon of the Hôpital Saint Louis, besides a number of cases treated by himself in private practice, and all of whom, with only one exception, whose case was complicated with rectal hæmorrhages, have rapidly derived the most complete benefit which the treatment has till now given. Dr. Lucas-Championnière concluded his paper by recalling that he did not mean to attribute to the electric treatment of uterine fibromata and other uterine affections a primordial importance; but he wished to impress upon his hearers that, in the cases where the surgical treatment is not justified, it is the best of palliatives, and it succeeds particularly at the period of the menopause. He believes it to be not only unnecessary but positively dangerous to employ high intensities: one succeeds as well with the lower intensities, and there is no inconvenience to be dreaded. He himself never employs an intensity exceeding ninety milliampères. Moreover, he remarks, that Dr. Apostoli believes the intra-uterine action indispensable, and thrusts the electrode into the uterine tissue when he cannot introduce it into the uterine cavity, — a most condemnable practice. Dr. Lucas-Championnière believes that, in this latter case, one should be contented to apply it to the uterine neck. Finally, he reminded the meeting that Dr. Danion attaches a great importance to the reversing of the current; and he believes it to be advantageous to practise the operation with the speculum, after having thoroughly cleaned out the vaginal cavity.

PROFESSOR CHARCOT.

It would seem almost superfluous to say anything of Dr. Charcot, as he is already so well known in the profession. He is certainly one of the most remarkable medical characters of the day, and even physically his person and features bear a peculiar stamp. He is a man of ordinary stature, about fifty-five years of age, and stoops a little. His face is pale and clean-shaven, resembling very much that of the first Napoleon, and giving the impression of a thoughtful mind. After having for a long time devoted himself to the study of pure pathological anatomy, he gave himself up to the clinical study of nervous affections, a scientific territory till then almost unexplored. He here displayed rare qualities of observation, an exemplary patience, a marvellous prudence and the most perfect method. He has won the intellectual esteem of his bitterest opponents, a world-wide reputation, and the assurance of having attached his name to a work which will remain imperishable. Professor Charcot's clinic at the Salpêtrière is well known, and constitutes the greatest scientific centre in France for the study of the pathology, diagnosis, and treatment of nervous diseases. It is attended by physicians and students from all parts of the world, where they find a vast amount of clinical material, and the complete methods of study organized and developed by the eminent professor, aided by a body of distinguished pupils and assistants who surround him in his daily visits. For many years Professor Charcot has taken a foremost place among the leaders of medical science; his clinique, his laboratories, his works and his pupils constitute one of the chief glories of the faculties of Paris. His lectures are most impressive, — he is sober in manner, clear in diction, picturesque in illustration, original in conception, indefatigable in research, and spares neither time, labor, nor wealth in using all the methods of clinical illustration at his disposal. It would be fastidious and useless to analyze here all his discoveries; I would simply refer to some which leave the narrow limits of medicine and touch somewhat on philosophy. In the chaos of the notions acquired on cerebral functions, it cannot be denied that it was Charcot who was the first to throw light on the subject, in finding, as if by a stroke of genius, the method which permitted him to fix the cerebral motor localizations. He at the same time with Kussmaul taught men the mechanism of their memory and of their language. And who does not remember the debates on the questions of magnetism and of hysteria that have so recently taken place among the lay and medical public? It was Dr. Charcot who, armed with his scientific *sang-froid* and method, reduced to definite laws facts which, in appearance, were the most incoherent. I may here observe that, to the Hospice of the Salpêtrière, which was originally intended only for the aged and insane of the female sex, there being 3,145 of the former and 720 of the latter, there have been added forty-two beds for male patients and a certain number of female patients suffering from nervous diseases, which additions were made for the most special study of diseases of the nervous system. It may be said that Dr. Charcot began his professional career at that asylum. He was interne in it in 1852, and

became physician in 1862. He was appointed professor of diseases of the nervous system in 1881, a chair which was created for him. Since 1862, he has not ceased to give his memorable series of lectures and clinical conferences, which are held every Tuesday morning at the Salpêtrière, and on Friday morning he holds consultations, both of which are always well attended. In addition to the above t ere are thirty beds for children afflicted with nervous diseases, and two hundred beds for epileptics. Besides these, he has the control of a series of infirmary wards, into which are brought all the patients whom he desires to select from among the infirm women who are the permanent inmates of the other parts of the Salpêtrière. Altogether, he has at his disposal for clinical study and under direct treatment more than 2,000 patients. No wonder, then, that with this vast experience Professor Charcot should be regarded as the highest authority on nervous affections. He is also a member of the Academy of Medicine.

NOT THE PIONEER.

BOSTON, October 4, 1889.

MR. EDITOR, — In the JOURNAL of October 3, Dr. Williams has shown that the American Gynecological Association is not the pioneer special association. In point of fact, it ranks fourth on the list. The American Neurological Association was formed the year before it, and held its fifteenth annual meeting last June, at Long Branch.

Yours truly,

PHILIP COOMBS KNAPP, M.D.

ATTENDANCE ON MEDICAL MEN AND THEIR FAMILIES.

BOSTON, October 7, 1889.

MR. EDITOR, — Times change, surely. Not a dozen years ago, a section (not adopted) in a draft-code prepared by a committee for the Massachusetts Medical Society was assailed with denunciation and ridicule. This section merely said, "for such professional services it will be proper to offer the whole or a part of the usual fees, which, under some circumstances, may be accepted without violation of professional courtesy."

Now, it is said to have become quite customary hereabouts to charge medical men as others, especially if the physician be called for his eminence rather than for proximity or intimate friendship. Perhaps this is expedient, for often such services have been quite other than properly requited. Many cases could be cited, — for instance, in one, nearly or quite two hundred visits, many of them urgent or exactingly protracted, did not receive even "formal thanks," although the patient had solemnly enjoined upon the family, abundantly able, to pay full fees. In another, a very laborious attendance was rewarded by unpleasant complaints, to neighbors and friends, of neglect and want of interest, because, not knowing their wishes, the attendant did not perform certain services not usually expected of medical men.

More of such instances are unnecessary, for the object of the present writing is to call the attention of ancient opposers to an article and editorial in the *London Lancet* of September 28th, p. 676, the last number that has reached this country.

Yours very truly,

OBSERVER.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 28, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	641	284	16.48	11.70	9.12	1.12	3.68
Philadelphia	1,040,245	312	111	12.48	16.00	2.88	4.80	3.20
Chicago	830,000	—	—	—	—	—	—	—
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	161	72	18.60	11.78	6.20	5.58	3.72
St. Louis	450,000	157	63	16.64	12.12	5.76	4.48	3.84
Boston	413,567	175	62	24.51	9.69	10.83	3.99	6.41
New Orleans	250,000	130	38	16.17	21.56	5.39	—	2.31
Cincinnati	225,000	121	—	23.24	12.45	3.32	1.66	14.94
Washington	225,000	93	34	27.00	15.12	9.72	6.48	8.64
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	26	7	26.95	11.55	11.55	3.85	—
Charleston	60,145	56	24	15.41	8.95	12.53	1.79	—
Portland	40,000	18	5	16.66	—	11.11	5.55	—
Worcester	78,292	29	16	44.85	13.80	27.60	6.90	3.45
Lowell	71,518	46	24	28.21	8.68	15.19	2.17	8.68
Cambridge	65,552	14	9	35.70	14.28	21.42	—	14.28
Fall River	62,647	28	13	22.50	18.75	7.50	11.25	—
Lynn	53,334	15	—	6.66	13.33	6.66	—	—
Springfield	40,731	6	2	—	—	—	—	—
Lawrence	40,619	20	7	30.00	20.00	5.00	5.00	20.00
New Bedford	37,253	15	9	53.28	—	33.33	—	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	10	5	20.00	—	10.00	—	—
Salem	29,011	14	9	21.42	7.14	7.14	—	7.14
Brockton	28,813	—	—	—	—	—	—	—
Chelsea	28,167	10	1	10.00	10.00	10.00	—	—
Haverhill	26,058	8	1	—	37.50	—	—	—
Taunton	25,170	5	1	20.00	40.00	20.00	—	—
Gloucester	24,263	3	2	33.33	—	—	33.33	—
Newton	21,553	8	2	37.50	—	12.50	25.00	—
Malden	19,774	—	—	—	—	—	—	—
Fitchburg	17,534	3	2	—	—	—	—	—
Waltham	17,332	5	1	40.00	—	—	—	20.00
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	3	0	—	66.66	—	—	—
Quincy	13,728	5	1	20.00	40.00	—	—	—

Deaths reported 2,037: under five years of age 805; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 313, consumption 291, acute lung diseases 155, diarrhœal diseases 167, diphtheria and croup 100, typhoid fever 70, whooping-cough 27, malarial fever 26, cerebro-spinal meningitis 12, scarlet fever 9, measles 2. From whooping-cough, New York 12, Boston 4, Philadelphia, St Louis and Cincinnati 2 each. New Orleans, Washington, Nashville, Fall River and New Bedford 1 each. From malarial fevers, New York 10, New Orleans 9, Baltimore 5, Nashville and Charleston 1 each From cerebro-spinal meningitis, Cincinnati, Worcester, New Bedford 2 each. Philadelphia, Washington, Nashville, Somerville, Waltham and Quincy 1 each. From scarlet fever, New York 3, Philadelphia and St. Louis 2 each. New Orleans and Lowell 1 each. From measles, New York and Salem 1 each.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,555,406, for the week ending September 21st, the death-rate was 17.0. Deaths reported 3,117: Infants under one year of age 930, acute diseases of the respiratory organs (London) 142, diarrhœa 279, diphtheria 68, scarlet fever 58, whooping-cough 57, fever 45, small-pox (Sheffield) 1.

The death-rates ranged from 12.4 in Brighton to 27.5 in Preston, Birmingham 14 7, Bradford 17.5, Cardiff 20.4, Hull 20.6, Leeds 20.4, Leicester 12.8, Liverpool 18.9, London 15.2, Manchester 21.1, Newcastle-on-Tyne 26.9, Nottingham 14.3, Sheffield 21.0.

In Edinburgh 18.0, Glasgow 17.3, Dublin 28.5.

The meteorological record for the week ending Sept. 28, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps: –

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.		Velocity of Wind.		State of Weather.[1]		Rainfall.	
Saturday, Sep. 28, 1889.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ..22	29.85	52.0	57.0	46.0	68	64	66.0	W.	W.	14	4	C.	C.		.0
Monday, ..23	30.04	54.0	64.0	43.0	60	54	57.0	W.	W.	13	6	C.	C.		.0
Tuesday, ..24	30.12	57.0	67.0	47.0	65	78	72.0	O.	S.W.	0	8	C.	C.		.0
Wednes. ..25	30.13	58 0	62.0	54.0	89	89	89.0	O.	E.	0	10	F.	F.	0.20	T.
Thursday, 26	29.89	64.0	72.0	57.0	94	95	94.0	E.	W.	8	4	O.	O.	8.00	.17
Friday, ...27	29.97	56.0	61.0	50.0	58	59	58.0	W.	W.	8	9	C.	C.		.0
Saturday, .28	30.11	52.0	59.	44.9	86	69	78.0	W.	W.	14	8	C.	C.	0.05	T.
Mean for Week.															

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 28, 1889, TO OCTOBER 4, 1889.

By direction of the Secretary of War the leave of absence granted Major BENJAMIN F. POPE, surgeon, in S. O. No. 54, August 17, 1889, Department of Texas, is extended one month. Par. 6, S. O. 224, A. G. O., September 26, 1889.

ADAIR, GEORGE W., captain and assistant surgeon Leave of absence for one month. S. O. 90, Headquarters Department of the Platte, September 25, 1889.

With the approval of the Secretary of War leave of absence for fourteen days is granted Captain ALONZO R CHAPIN, assistant surgeon. Par. 10, S. O. 223, A. G. O., September 25, 1889.

POINDEXTER, JEFFERSON D., assistant surgeon U. S. Army. Granted leave of absence for one month. S. O. No. 113, Headquarters Department of Dakota, September 30, 1889.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING OCTOBER 5, 1889.

HARMON, GEORGE E. H., surgeon, detached from the U. S. S. "Constellation" and ordered to Naval Academy.

LOWNES, C. H. T., assistant surgeon, detached from the U. S. S. "Constellation" and to Naval Academy.

WINSLOW, GEORGE F., surgeon, ordered to Marine Rendezvous, Boston.

HENRY, CHARLES P., assistant surgeon, ordered before the Retiring Board for examination.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE SIX WEEKS ENDED OCTOBER 5, 1889.

FESSENDEN, C. S. D., surgeon. Granted leave of absence for thirty days. October 3, 1889.

WYMAN, WALTER, surgeon. Granted leave of absence for thirty days. September 3 and 21, 1889.

SAWTELLE, H. W., surgeon. Granted leave of absence for seven days. September 26, 1889.

AUSTIN, H. W., surgeon. Granted leave of absence for thirty days. September 9, 1889.

GASSAWAY, J. N, surgeon. When relieved at New Orleans, La., to rejoin station at Cairo, Ill. September 30, 1889.

GOLDSBOROUGH, C. B., surgeon. Leave of absence extended thirty days on surgeon's certificate of disability. September 16, 1889.

ARMSTRONG, S. T., passed assistant surgeon. Relieved from duty at New York; ordered to command of service at Cleveland, Ohio. September 17, 1889.

AMES, R. P. M., passed assistant surgeon. Assigned to duty at New Orleans, La., upon expiration of leave of absence. September 30, 1889.

WHITE, J. H., passed assistant surgeon. Leave of absence extended thirty days on surgeon's certificate of disability. September 21, 1889.

NORMAN, SEATON, assistant surgeon. Granted leave of absence for thirty days, to take effect when relieved. October 4, 1889.

PETTUS, W. J., assistant surgeon. Ordered to Portland, Me., for temporary duty. September 26, 1889. Granted leave of absence for twenty-six days, to take effect when relieved. October 3, 1889.

KINWOUN, J. J., assistant surgeon. Granted leave of absence for thirty days. September 21, 1889.

SOCIETY NOTICE.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. – A regular meeting of the Society will be held Monday, October 14, 1889, at the Medical Library, 19 Boylston Place, at eight o'clock, P. M. Reader, Dr. E. J. Forster. Subject, Mushrooms and Mushroom Poisoning. Dr. M. H. Richardson will report a case of Pregnancy complicating Ovariotomy. Dr. F. B. Harrington will report a case of Intussusception and Rupture of the Intestine in a child of five months, with specimen.

F. B. HARRINGTON, M.D., *Secretary.*

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the Louisiana State Medical Society at its Eleventh Annual Session, held at New Orleans, La, April 9, 10, and 11, 1888.

The Epitrichial Layer of the Human Epidermis. By John T. Bowen, M.D. From the Histological Laboratory of the Harvard Medical School, with five figures. Reprint from the Anatomischer Anzeiger.

Original Articles.

PRIMARY MALIGNANT DISEASE OF THE DUODENUM.[1]

BY E. N. WHITTIER, M.D.
Visiting Physician Massachusetts General Hospital.

MANY regard the question of primary malignant disease of the upper bowel, unpromising and unprofitable for discussion; that cutting down upon and into the mass of literature on the subject, will only serve to confirm the pre-existing opinion of the complex nature of the theme, and to reveal such blending and fusion with adjoining topics as to demonstrate anew the impossibility of an accurate and clean dissection and enucleation of the question.

The leading authorities are in concord with reference to the diagnostic difficulties met with in subjects of intestinal malignant disease. No rules have yet been drawn up, no tables have yet been formulated, no plan has yet been presented, no safe scheme has yet been devised by which speedily or in any important degree to the advantage of the patient, an early diagnosis of cancer of the digestive tube can be established. To the clinician, the evidence furnished by the subjective and objective symptoms may appear convincing in large measure, nevertheless it is defective and incomplete, lacking "definition" in the relation which the rational and physical signs should sustain to each other; nor do the methods employed in differential diagnosis lead with sufficient directness to definite and logical conclusions; the various factors do not coincide in any such degree of harmony as to afford conclusive and cogent reasons upon which to base positive diagnosis.

It is, therefore, by the method known as "exclusion" that the most accomplished diagnosticians achieve their desirable results when called upon to deal with this complex question; and to each and every diagnosis of cancer of the small intestine, there should be appended the reserve clause, "an autopsy is needed for full confirmation."

To some it may appear that this pronounced opinion bearing on the diagnosis of malignant disease of the upper bowel, can apply to the disorder in its earliest stages only, yet all who have had to deal with subjects of this class must admit that in all its stages, the disease begets doubts, uncertainties, and indecisions which torment the attending and consulting physicians, and we are prepared to concede, that to the necroscopist — "he who views the body after death" — must be relegated in such cases one of our choicest privileges, the power of clear and definite ante-mortem diagnosis.

I find myself limited by the subject chosen for this paper, to the consideration of those cases wherein the malady is located in that portion of the digestive tube which is actively engaged in digestive processes; for, however much we may know of the function of the large intestine in reference to absorption, and however great the temptation to include in my theme intestinal cancer as a whole, and particularly the localities where its frequency is greatest, and diagnostic features are most pronounced, we must grant that the colon and the rectum do not play any important part in the preparation of food for the maintenance of life.

[1] Read by title at the Annual Meeting of the Association of American Physicians, Washington, D. C., September, 1889.

The statistical element in intestinal cancer is extremely unsatisfactory and incomplete; but few tables are in existence, and none of these are definite. The subject of primary intestinal cancer with reference to precise or comparative seat, and percentages of location cannot be developed profitably with the material at our command. The statistics at present accessible are not useful, and they are contradictory. We cannot separate from the mass of the reports, data which will enable us to conclude what proportion of intestinal neoplasms are duodenal, what are of other parts of the small intestine; nor can we advance much beyond the Vienna tables, now classical, wherein

Cancer of the Rectum was	. . . . .	80%	of the whole.
" " Colon was	. . . . .	11.5%	" "
" " Ileocæcal Valve and immediate parts was	. . . . .	4.1%	" "
" " Small Intestine was	. . . .	4.3%	" "

Further computation, from all sources, would give about one per cent. of intestinal cancer, primary in the duodenum. This is the nearest approach which has yet been made, except in some of the smaller tables, towards determining the relative frequency of the different seats of primary cancer of the intestine. For instance, Köhler's table of thirty-four cases is incomplete because he throws out cancer of the rectum and groups

Large Intestine	. . . . .	22 cases
Small Intestine	. . . . .	12 "

(and of the twelve, nine are of the duodenum); but he fails to mention the segment in which the largest number originated. It might further be stated that intestinal cancer as compared with cancer of other parts of the body varies according to the Geneva and the Vienna list from 4 per cent. to 5.4 per cent.

It is quite generally conceded that the most prominent and persistent factor associated with intestinal morbid growths, is diminution of the lumen of the tube, and that whether the neoplasm be cylinder-cell, epithelioma, scirrhus, colloid, encephaloid, adenoid, sarcomatous or lymphadenoma, or even benign, the constant tendency is towards obstruction; the most reliable diagnostic symptoms are those arising from impaired permeability.

The mechanism of the process has been defined by the terms obturation, occlusion, and constriction. I think that the frequently employed term occlusion has no place in the diagnostic nomenclature of the disease under consideration, except in so far as it may serve to define or describe the position of a growth which occludes the common duct, and prevents the passage of pancreatic and hepatic secretions into the intestinal canal.

The essential facts are, that a certain class of intestinal new growths arise as disks, as fungoid growths, or as villous prolongations; many other forms at some period assume this type of development, and all such project into the canal and delay or arrest and finally obstruct the passage. Other new growths implicate the circumference of the intestine spread rapidly around the gut, girdling it, and causing notable annular constrictions. So that from one or the other of these two methods, or from both operating in unison, the result obtains with great precision, and the tendency towards complete closure of the canal is persistent and prominent.

It should not be lost sight of that the character, or rather the degree of density of the intestinal contents

varies with location, and that the contents of the stomach are poured out through the pyloric orifice in a liquid or semi-liquid state, rendering it possible for a passage to be effected through an extremely small opening, and without the aid of any large degree of peristalsis.

It is this feature which serves to mask the degree of obstruction induced by the neoplasm, and places high among the rational signs of cancer of the duodenum, the extremely negative symptom of latency. There cannot be in such a disorder in such locality, the influences which are powerful in obstructive disorders lower down in the intestine. I refer to the compensatory hypertrophy of the muscular coat of the bowel; hence it not unfrequently arises, that the symptoms of lessened calibre for a long time latent suddenly declare themselves with great force, and with all the symptoms of an acute and complete stenosis.

Diagnostic difficulties multiply as we ascend the intestinal canal. Localization by tabular views and by percentages, places by far the largest number of cases of cancer of the gut, in the rectum, where the largest opportunity is found for determining the seat of the disease by the employment of the more advanced methods of exploration and examination; the physical and correlative signs are more positive and less confusing in proportion as we near the outlet. In the duodenum the symptoms worthy of the largest confidence are those arising from occlusion of the common duct, with or without evidence of obturation or constriction of the intestine, and the resulting dilation of the stomach and first segment of the duodenum; for it is at this point that the larger number of duodenal cancers are found. When the disease affects the upper third it is with the greatest difficulty differentiated from pyloric cancer, but because the bile and pancreatic secretion find their way into the intestine, intestinal digestion is less disturbed, while if the disease is in the lower third, the presence of bile as a frequent element in the matter vomited, and the evidence of gastric dilatation, are important symptoms. Blood may appear either in the dejecta or in the vomitus, according as the gut is pervious or as the ulcerative processes affect the upper portion, or the lower part of the obturating mass.

The quantity and the quality of the food descending into the intestine determines in large measure the external appearance of the abdomen, though it should be borne in mind that tympanites from intestinal flatulency may closely resemble the meteorism which is constant in cases where obturation or constriction originates in malignant disease of the large intestine. The result, however, in cancer of the duodenum is generally that the belly is shrunken and depressed, "boat shaped," and this is an important reciprocal sign in connection with gastrectasis, and serves to measure, to a considerable extent, the degree of hindrance to the passage of food induced by the neoplasm.

Pain is a very uncertain element in the diagnosis and localization of the disease. Enteralgia arises from so many different causes, and is so frequent in the disorders associated with malignant disease of the abdominal contents, that its significance is extremely doubtful, and its aid in diagnosis unfortunately small, and as a symptom very unreliable.

The pain induced by the local disease is frequently masked by the coincident and consequent pains of flatulent colic, the result of disordered intestinal digestion; changes in the proportions of the intestinal fluids engaged in digestion, are notably frequent and find expression in malnutrition and colicky pains, most marked when the disease involves the mid-section of the duodenum and leads to partial and temporary, or complete and permanent occlusion of the common duct. Jaundice, when present, confirms the opinion that the disease is located as above stated.

No portion of this subject is so unsatisfactory as the question of tumor. Tumor, in other forms of intestinal cancer, is present in a large and commendable degree of certainty; there seems to be some warrant for the feeling that exists at the time of examinations, in cases of suspected malignant disease of the rectum, or of the large, as well as of the small intestine, that the absence of tumor disproves the apprehension and assures the physician that his fears were not well grounded. The rectum, the flexures of the large intestine, and the coils of the small intestine, all afford opportunity for determining the absence or the presence of neoplasms of the type under discussion.

But such is not the case in malignant disease of the duodenum; discoverable, demonstrable tumors do not exist in any considerable percentage of frequency. We are told that the presence of a tumor confirms diagnosis, but we are not permitted to believe that the absence of an appreciable tumor will enable us to dismiss our fears that an active malignant process has already been established, whose course is short and whose termination is speedy and fatal.

Due appreciation of the relative infrequency of tactile, tangible evidence of the disease, does not exist in the profession at large. Text-books are defective in explicitness in this direction. The bare statement, that a tumor when present, confirms the diagnosis, is insufficient and misleading; the sources of error, with reference to the nature of tumors in this locality, are large, and fruitful of mistakes, and hardly need be enumerated; and it must always remain a cause for regret that subjective symptoms, seemingly direct and conclusive, should lack confirmation through the absence of the objective sign whose positive palpable presence, the existence of the disease would seem necessarily to imply.

I append a brief synopsis of thirteen cases of primary malignant disease of the duodenum, not previously presented in connection with a paper on this topic.

CASE I. Male, seventeen years. A glutton, and addicted to strong liquors. For over a year had occasional vomiting and more or less violent colic, the attacks becoming more severe. Bowels habitually loose. Two days before death, after eating to excess, he vomited; vomitus was at first food then black matter. Gastric colic became extreme, vomiting became stercoraceous. Great prostration. Cardiac failure. Mind clear. Death.

Autopsy: Stomach enormously dilated. In duodenum, just below opening of the bile duct, was a mass of scirrhous cancer, ulcerated and at one place perforated. General peritonitis. Elsewhere nothing remarkable.

CASE II. Male, seaman. Admitted to Baltimore Infirmary for necrosis of metatarsal bone. The operation was followed next day by incessant vomiting and purging. Evacuations dark and fetid. No pain or tenderness on pressure. On the third day universal jaundice came on. The above symptoms persisted and patient died sixteen days after the opera-

tion. During the last three days the stools were bloody and fetid.

Autopsy: In second curvature of the duodenum near the entrance of the common bile duct, which was completely obstructed, was a large indurated mass united to the head of the pancreas. Extensive ulceration on inner surface of duodenum. Gall-bladder enormously dilated. Liver extensively diseased and the portal vein completely occluded by the growth. Stomach not diseased.

CASE III. Male, age sixty years. Three years before death began to have uneasiness after eating and later to vomit frothy matter. Finally vomiting became incessant and stercoraceous and pain was felt in region of umbilicus.

Autopsy: Stomach dilated five-fold; duodenum enlarged and obstructed six inches beyond the pylorus with an ulcerated encephaloid mass.

CASE IV. Male, age eighteen years. Foundry apprentice. Good health up to age of sixteen years; then pain in epigastrium followed by vomiting, constipation, loss of appetite, emaciation. Seven weeks before death a tumor was discovered just below costal cartilages on the right side. Five weeks before death he began to vomit large quantities of black coffee-ground material.

Autopsy: A soft, spongy tumor, three by four inches, growing from posterior wall of descending portion of duodenum. The mucous membrane over the tumor was broken down and the lumbar glands enlarged.

CASE V. Male, age eighteen years. Seven months before death the symptoms began with loss of appetite, vomiting, emaciation, very severe paroxysms of pain. Vomitus was coffee-ground matter, one or two quarts at a time, containing blood, black granular matter and sarcinæ. Became sallow and cachectic. Death.

Autopsy: Stomach dilated. A soft, spongy tumor size of an orange, growing from posterior wall of duodenum, covered with a brown slough. Lumbar glands and right testicles were cancerous.

CASE VI. Male, age seventy-two years. Pensioner. Fourteen weeks before death he began to suffer from vomiting and flatulence following a very hearty meal. Vomiting continued for five days. No pain. Then gradually became intensely jaundiced. Lost appetite, vomited occasionally, became emaciated, but had no pain. Bowels open, stools slightly tinged with bile. No tumor, pain, or tenderness. Liver slightly enlarged. No ascites. Steady loss of strength, occasional vomiting; became comatose and died.

Autopsy: Stomach somewhat dilated. An indurated mass in the duodenum, near the entrance of the bile duct, ulcerated on the inner surface. Extension of growth into the bile duct caused obstruction with dilation of gall bladder and bile duct. Small nodules of new growth in the liver. Chronic interstitial nephritis.

CASE VII. Male, age seventy-four. Laborer. One year before death began to have dyspeptic symptoms. Eight months later a tumor was found in right hypochondrium just below the liver. He then had extreme constipation, paroxysms of vomiting which continued at intervals for several days, vomitus resembling coffee-grounds. Stomach much distended. Continued to work till three months before death, then became very much emaciated, with a sallow complexion.

Autopsy: A tumor involving the entire circumference of the duodenum for about three inches between the pylorus and the bile duct. The interior presented an ulcerated cavity. Stomach greatly distended.

CASE VIII. Male, age forty-five years. Had suffered from intermittent fever seven months before death. This was followed by jaundice and a dull gnawing, intermittent pain in the epigastric region. Three months before death again had malarial chills. This attack was followed by severe pain in the stomach, frequent vomiting of food and dark grumous blood. Also had hæmaturia. Steadily grew weaker, vomiting incessantly.

Autopsy: A large fungous mass extended from pylorus to jejunum, reducing the calibre of the duodenum to the size of a quill. Stomach healthy. Liver enlarged. Bile duct distended. Gall bladder dilated. The common duct contained a large calculus. Omentum slightly involved. No disease elsewhere.

CASE IX. Male, age seventy-two years. Good previous health. Without apparent cause was taken with jaundice attended with weakness and anorexia. No colic. Jaundice increased. Steady loss of strength. Slight tenderness over liver. No tumor. No ascites. No vomiting. No fever. Six weeks before death had œdema of left arm, then of left leg, then of face. One month before death he became delirious and began to have diarrhœa. Was previously constipated. Œdema then appeared on right side of body. Later diarrhœa and constipation alternated. No abdominal tenderness nor ascites. Increasing cachexia. Death.

Autopsy: Stomach healthy. In second portion of duodenum was a cancerous mass partly obstructing the common bile duct which was much dilated above this point. Some cancerous mesenteric glands.

CASE X. Male, age fifty-four years. Six weeks before death was complaining of debility and dyspeptic symptoms, fulness after eating, flatulence, eructations, constipation. One week later began to have constant dull pain referred to left hypochondrium. No special tenderness on pressure or evidence of tumor. No jaundice, nausea or vomiting. Four weeks before death, began to have frequent large amounts of black, grumous, offensive blood in the stools. Became extremely week and anæmic. One week before death he began to vomit, vomitus containing a little blood. Urine contained much indican.

Autopsy: An irregular, nodular, scirrhous mass, two and one-half inches in diameter, occupied the middle third of the duodenum. The duodenum just above the mass was perforated. No disease elsewhere.

CASE XI. Male, fifty-one years old. Family history negative. Habits good. Had pneumonia at age of forty-three. Sickness began October 1, 1887, with vomiting, diarrhœa and jaundice. Dull pain in abdomen. A few days later a resistant mass, size of the fist was found in the right inguinal region. The mass disappeared later after free movements of the bowels, but reappeared from time to time. No increase of hepatic dulness, but tenderness in the epigastrium. November 11, left the hospital much improved but stil. jaundiced. Returned January 3, 1888, having lost much in strength and weight. , Much jaundiced. Constant dull pain in right of abdomen. Frequent vomiting. Bowels loose. No ascites. A resistant,

somewhat tender mass was found in right hypochondrium about size of a lemon. This was aspirated several times during the next few weeks, and small amounts of opaque, thin, watery fluid were removed. Steady loss of strength. Persistent jaundice, bowels loose. Moderate increase in size of liver. March 23d became delirious, and on the 27th after an intestinal hæmorrhage of eight ounces, died.

Autopsy: The upper two inches of the duodenum dilated to twice the usual size. At orifice of the bile duct was a growth size of English walnut with a papillary surface covered with clots. Gall bladder was size of fist, walls much thickened, containing thin pus. Liver enlarged one-third and contained numerous small abscesses corresponding to the distribution of the bile duct.

CASE XII. Seen in consultation with Dr. Charles D. Sawin of Charlestown, to whom I am indebted for the following history. A. M., age sixty-six; married, occupation, carpenter. First saw him March 12, 1888, and obtained the following history: Had been for a year under treatment of several different physicians, "for dyspepsia," he said. When I saw him he was able to walk about the house, but didn't care to venture out of doors. At the time complained of failing strength, rapid emaciation, and inability to keep any food on his stomach, though there was a constant desire for food. The vomiting occurred generally from one-half to three-quarters of an hour after taking nourishment and even water; the vomitus made up simply of ingested substances, and very offensive. No blood ever seen. Constipation had during all of his sickness been a prominent symptom. In connection with the vomiting would state that there was no retching. No abdominal pain, but slight tenderness in epigastrium.

Physical signs. Pulse normal and about 70. Chest, — Heart sounds feeble, no murmur. Lungs normal. Hepatic dulness not increased, but in doubt as to whether left lobe of liver enlarged or not. Skin, lemon color at the last. By palpation, still more in doubt as to whether a tumor could be felt. Abdomen retracted, and never distended during the whole course of the disease. Milk and lime water only, by mouth in one-half ounce amounts. Brandy, egg and milk, by enema. Bismuth and hydrocyanic mixture by mouth. Salicylic acid for gaseous eructions. Gradually failed, and treatment was of no avail. Never complained of pain, and died from exhaustion on April 19th. Emaciation extreme.

Post-mortem April 20th. Body extremely emaciated. Abdomen retracted to an extreme. Skin flabby and lemon-yellow in color. Stomach contained about six ounces of yellow, thin and offensive fluid; not dilated to any appreciable extent. Duodenum in its first and descending portions including the whole circumference of the intestine, a hard, smooth (gristle-like) tumor, elongated, its thickest portion being near the pylorus. This tumor was four to five inches in length and involved the three coats of the intestine, the canal being almost completely obstructed and could not be distended. The mucous coat ulcerated and villous in character and hemorrhagic. The wall of the intestine at its greatest thickness about three-quarters of an inch.

CASE XIII. I am under great obligation to my friend Dr. Robert Burns, of Plymouth, N. H., for the accompanying specimen, and the history of the case.

G. F. D., of healthy antecedents and good family history, age thirty-three years. No illness of importance up to one and one-half years previous to his death, then and during the rest of his life "indigestion," nausea and great discomfort. About a year before his death, vomiting began and continued with short intervals, but during the last four months it was the prominent symptom, ejecting enormous quantities, two to three quarts at a time, and often ten to twelve quarts in twenty-four hours; this vomiting varied in time from soon after eating to several hours; much of the tissue of the vomitus was green as if Paris-green had been mixed with it. All of the time he was greatly constipated. He had no localized and no excessive pain. He had great discomfort, and sensations of weight and oppression referred to epigastric region, but pain when present, varied in its location, in different parts of the abdomen. There was no marked cachexia, nor was the abdomen shrunken or depressed. No tumor could at any time be made out. The physicial signs were of moderate epigastric distension, and excessive gastric dilatation. He died from exhaustion.

Autopsy showed marked emaciation. Stomach and small intestine for about eight inches greatly dilated, to such a degree that there was no essential difference in size between the stomach and the first six or eight inches of the duodenum. The line dividing the stomach and the duodenum could not be marked out. About eight inches below the stomach was an annular constriction, below which the bowel was much diminished in size and nearly empty. At the point of constriction the small intestine was completely obstructed by a fungoid mass, which acted as a valve; water would not pass down from above but a pencil could be pushed through from below. There was no evidence of disease elsewhere in the body. The symptoms were "indigestion" for one and one-half years, vomiting during the last six months of enormous quantities up to the day of his death, and death from inanition.

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CASE

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VI. Sidney Coupland. Trans. Path. Soc., London, 1873, xxiv, 103.
VII. Dr. Haley. Pacific Med. and S. J., San Francisco, 1873–74, vii, 136.
VIII. Dr. D. K. Dickinson. New York Med. J., 1879, xxx, 149.
IX. Avouez. Bull. Soc. Anat. de Par., 1875, 3d S., x, 465.
X. Dr. J. L. Hicks. New York Med. Rec., 1878, xiv. 67.
XI. Dr. A. L. Mason, Boston City Hosp. Records B. C. H. (unpublished), cclxiii, 26; cclxv, 154.
XII. Unpublished.
XIII. Unpublished.

Other cases are reported by Murchison, Leube, Tauchon, Descraizilles, Hamilton, Molinelli, Williams and Dixon.

— Edward Atkinson has contributed an article on "The Art of Cooking," which will open the November *Popular Science Monthly*. In it he points out what enormous quantities of food and fuel are wasted in ordinary cooking, and describes the "cooker" and "oven" invented by him, which need but a wonderfully small quantity of oil or gas, and cannot spoil the food.

THE SURGICAL TREATMENT OF BACKWARD DISPLACEMENTS OF THE UTERUS.[1]

BY CHARLES P. STRONG, M.D., OF BOSTON.

DURING the period of the last four years various surgical measures have been proposed for the relief of that condition of the uterus which is so commonly encountered and so often unsuccessfully treated. To those operations which have been performed with sufficient frequency to entitle them to presentation, I invite your attention.

There are two points which I wish to emphasize at the beginning of this paper. First, it is not intended to discuss the question whether backward displacements of the uterus form, *per se*, lesions directly or indirectly responsible for certain symptoms, and, as such, demand treatment, nor the pathological changes which cause these conditions. Secondly, it is assumed that all practicable non-surgical measures, packing, pessaries, etc., have been previously employed and failed. To obtain a fair estimate of the relative frequency of these lesions, I have examined the records of the last six hundred cases of pelvic disease that have been treated at my clinic at the Free Hospital for Women, selecting those records rather than those of my private practice, because the diagnosis is there recorded of the condition which is considered to be the cause of the patient's symptoms, and does not also embrace a "multitude" of minor details. There are recorded in these six hundred cases, 78 cases of retroflexion and 75 cases of retroversion, — that is, 25 per cent. of the cases applying for relief have symptoms which I considered due to backward displacement of the uterus.

At the outset two distinct divisions of this displacement must be made. First, backward displacements which are not adherent. Second, backward displacements in which there exists union by slight or by firm adhesions between the uterus and adjacent viscera or pelvic walls. The treatment of the two classes by surgical measures demand separate consideration. In the former it is limited to the best means to be adopted for retaining in its normal position the uterus which can be replaced manually; in the latter, the additional consideration of how first the uterus may be freed from its abnormal position and subsequently secured. It may be well to consider for a moment what these adhesions are and how they originate. Before laparotomies were so common our information upon this point was theoretical. It was considered that inflammation of the parametritic cellular tissue was the effective agent, but the revolution within the past five years in our knowledge of the pathological conditions of inflammatory changes in the pelvis have demonstrated the incorrectness of this view, except in rare cases; and it is commonly accepted that the adhesions become organized from the peritoneal exudations caused by tubal disease or direct peritoneal inflammation from disease of the uterine mucous membrane. Rarely they may arise from simple tubercular peritoneal inflammation. If it were possible to make sure that all adherent uteri had diseased tubes accompanying them, the problem of interference would be much simplified; but the salpingitis may long ago have disappeared or even never existed, so that every case must be carefully considered in this regard. In simple retroversion these adhesions usually bind the investing peritoneal membranes of the posterior uterine and anterior rectal walls in close contact. Long string-like adhesions in this site are rare. Laterally, one or both broad ligaments may be deflected backwards and united, but less closely, to the lateral wall of the uterus. Occasionally slender filamentary adhesions run from the posterior pelvic wall to various points upon the fundus. In retroflexion the adhesions between the rectum and uterus exist usually more completely around the tip of the fundus, as the uterus is doubled over upon itself, and stronger adhesions exist between the sacrum and the anterior part of the fundus. Adhesions may exist from the slightest degree to those which render the uterus permanently immovable.

Before passing to the consideration of the various methods best adapted for replacing the backward displaced uterus and securing it permanently forward, the measures to be employed for the separation of adhesions only may be well considered.

The simplest plan that would present itself surgically is rupture or tearing off the adhesions without any cutting operation. Unquestionably this has been performed many times in an accidental manner as it were, by every gynecologist, but Schultze has so formulated a method of procedure and has been so far the boldest in his attempts that the operation of forcibly replacing the adherent uterus bears his name. The method, as I have employed it, does not essentially vary from that described by him, although I had practised it empirically before reading his article upon the subject. The bladder and rectum must be thoroughly emptied and complete surgical anæsthesia induced. I employed the right hand for manipulation through the abdominal walls, and, conjoined with vaginal or rectal examination by the left hand, mapped out very carefully the size, extent, and resistance of the adhesions and their relation to the other pelvic tissue viscera. The importance of this preliminary examination and its thorough performance cannot be too strongly urged, as on the result depends the prognosis of further procedures. If the case is deemed operable, two fingers in the rectum are used to dislodge the uterus from its position beneath the promontory of the sacrum, prying it first to one side, then to the other. Usually it is more easily elevated by passing to the left of the promontory. The hand upon the abdomen meanwhile makes firm, deep pressure, endeavoring to press the finger tips behind and beneath the fundus and so bring it forward. A stroking motion of the hand towards the pubes aids materially. As the fundus is raised the adhesions are brought into clear prominence, and if small and slender, are snapped off. If large, more organized, flat, and connected with the rectum, or the peritoneum of the pelvic wall, an attempt is to be made to separate them at their uterine end by peeling them away. As the uterus is raised, and the fundus anteverted by the hand on the abdominal walls, adhesions are discovered which may not have been previously suspected, and which must be dealt with in a similar manner. When once the fundus is elevated beyond the promontory of the sacrum, the grasp of the hand through the abdominal walls operates as a powerful agent by which it is still further anteverted, and the other hand may perhaps best operate in the vagina instead of the rectum, pressing the cervix backward. During the process of replacement it is often necessary to employ both hands upon an adhe-

[1] Read at the Annual Meeting of the Massachusetts Medical Society, June 11, 1889.

sion, either for examination or the requisite manipulation for its detachment. As the uterus, if thus left unsupported, would fall backwards, I introduce a flexible sound of which the uterine extremity can be bent to any angle by curving the outside portion, an assistant by this instrument can hold the uterus exactly in the proper position without injury to its lining membrane. I never introduce an ordinary sound, which it is impossible to employ without some leverage action. It is not always possible to fully complete the operation by entire separation of the uterus, but satisfactory therapuetic results, even under these conditions, may be obtained, as one of my cases will illustrate.

When once the uterus is brought forward, the problem presented is as to the best method of retaining it in its new position. For this purpose artificial measures of some kind must be employed immediately or it will fall backward again and adhesions at once reform which may not be so amenable to treatment. I have not found it necessary to employ other measures than a suitably adjusted pessary and packing, except in two cases. I keep the patient very quiet for a week, watching carefully for any signs of peritonitis. Thus far, in more than twenty cases in which I have operated, there has been but one which was followed by any inflammatory reaction; and in this instance I was unable to keep the patient quiet more than one day. A long carriage and railroad ride followed within twenty-four hours after the operation, and the result was a sharp peritonitis and decided re-forming of adhesions. So far as I have been able to trace the patients, two only have required further surgical treatment for a recurrent displacement. One of these I twice operated upon by this method and subsequently by laparotomy. There being no decided variation in the method employed it would be wasteful of time to enumerate all these cases in detail.

Case I. A typical, uncomplicated successful case. M. B., twenty years of age, a working girl of fair physique but anæmic. Very acute retroflexion with strong adhesions extending from the fundus to the posterior part of the pelvis. Laterally the pelvis was free. Dysmenorrhœa, debility, and gastric disturbances were the symptoms demanding relief. Operation June, 1887. A retroflexion pessary was inserted. The patient was last seen in May, 1889, perfectly well. The uterus still held in position by the pessary. An attempt to leave it unsupported a year subsequent to the operation was followed by a tendency towards retroversion. There are no evidences now to be found of the previous existence of adhesions.

Case II. Relief of the symptoms, incomplete restoration of the uterus to its normal position. E. F., twenty-four. Enlarged, retroflexed, adherent uterus. Decided endometritis. Present complaints, — sterility accompanying marriage of four years, nervous and circulatory disturbances. The patient was weak and sickly with poor family history. Several attacks of peritonitis within the previous seven years. I employed all ordinary measures to relieve the uterus from its adhesions unsuccessfully. May 10, 1888, the uterus was forcibly separated and brought forward until the fundus was freely movable above the sacral promontory. All the adhesions posteriorly and on the left side were freed; on the right a strong inflexible band the size of the thumb, evidently connected with the broad ligament and possibly involving the tube, prevented complete reposition. The pessary, inserted immediately after the operation, retained all the advantages gained. Without further local treatment the endometritis subsided, the general symptoms disappeared, and in November, about four months subsequent to the operation, the patient became pregnant. As the sterility was the symptom for which the patient most decidedly wished relief, I considered the operation therapeutically successful. It is interesting to find that at the fourth month of pregnancy this adhesion was stretching and allowing the fundus to rise, but deflecting it strongly to the right. However, pregnancy has progressed favorably.

Limitations of this Operation.

It is unwise to attempt a forcible reposition if there is present any acute inflammatory process. If the adhesions connect the fundus in broad bands with the investing membranes of the rectum; if the adhesions are found to be lateral, involving, as they probably do in that case, the tubes or ovaries or both; if they have resulted from an attack of general peritonitis; if it is fairly probable that tubal disease is present; with the operation partially completed no further attempts at complete reposition should be made if the hand manipulating through the rectum finds the rectal wall is raised as the uterus is elevated. With any of these complications there would follow laceration, or such undue tension upon tubes or intestines as would lead to their rupture or sloughing.

The Treatment of the Non-adherent Backward Displacement.

The problem here to be solved is to permanently secure the uterus as nearly as possible in its normal anterior position in the safest, surest manner. There have been many devices suggested which have had the test of one or two trials. Unfortunately, most recorded cases have been reported too soon to afford a sure test as to the liability of relapse, so that for our guidance there remain but few recognized methods. These are: (1) the operation known as shortening of the round ligaments at the inguinal ring, or the Alexander-Adams operation; (2) direct fixation of the uterus forward, by stitching it to the anterior abdominal wall or to some anterior portion of the pelvic lining; (3) shortening of the round ligaments within the abdominal cavity without destruction of their continuity. These latter two operations depend for their successful results largely upon the establishment of adhesive inflammation between peritoneal surfaces, the former upon the sustaining power of the round ligaments of the uterus.

The Alexander-Adams Operation. — Since I first performed the operation in August, 1886, I have operated for the cure of backward displacements *alone* eleven times; with three exceptions, I have made examinations of these patients within the past month. Two of those have been attended by their family physician, and the third has passed from my observation, but not until after the results had stood the test of a year, and a year of hard work. Anatomically, every operation has been a success; therapeutically, two have not realized all that was hoped, but as these cases had various complications coëxistent with the displacement, they cannot weigh against a surgical success. I tabulate the cases only in the intervals of time that have elapsed since the performance:

No. of cases in which more than two years have elapsed since the operation	2
No. of cases in which more than eighteen months have elapsed	2
No. of cases in which more than fifteen months have elapsed	3
No. of cases in which more than eight months have elapsed	2
No. of cases in which more than six months have elapsed	1
No. of cases in which more than two months have elapsed	1

This table includes no case in which the operation was performed for other causes than those strictly relative to the subject of this paper. The operation of shortening the round ligaments I have performed in practically the same manner in all my cases, a brief description of which may be of some interest; so I will quote from my paper upon this subject (Shortening of the Round Ligaments), published in February, 1888.

To avoid repetition I will give in detail the procedures I have followed in all my cases. I have aimed to make the operation as thoroughly aseptic as a laparotomy. I make an incision directly upon the spine of the pubes and locate the external opening of the inguinal canal, clearing away the edges of the ring, raise the little mass of fat lying just inside, and, separating it by director and knife from the sides of the canal, draw it out until the round fleshy-looking fibre of the round ligament appears, exercising great care not to separate the proximal end of the ligament from its fastenings. The fullest development of the ligament is not reached until an inch or more is drawn out. I free two or three inches of the ligament in this manner, handling it with great care, and similarly treat the ligament of the other side. An assistant then lifts the uterus, vaginally, to its proper level and position, and any further slack of the ligament is drawn out and secured to the pillars of the ring by fine silk sutures.

The surplus mass of the ligaments is then folded upon itself and packed away, forming a plug in the ring, and the external wound closed without drainage. Dry occlusive dressing is applied, which is left undisturbed a week. A support is inserted that will retain the uterus in its proper place and take all strain from the ligaments. The patient is kept quietly in bed for two weeks.

The remote results of this operation having been so favorable, are there any immediate dangers? I have not had one disagreeable symptom until my last three cases, in which there was some suppuration from the use of non-septic catgut for the external stitches. In only one case have I failed to find and secure both ligaments. This case is of interest, too, as one in which forcible breaking up of adhesions, under ether, followed by the use of a pessary, have been successful in converting it from an adherent to a non-adherent uterus, although the uterus flexed backward over the support. A year after the first operation, the adhesions had not re-formed, and at this latter operation I found the uterus perfectly movable. This was one of the cases tubulated as successful after more than eight months. The patient, a girl of seventeen, having the physique of a child of twelve. The ligament first secured was the right, which was, by direct comparison at its largest part, the size of the lead of an ordinary pocket pencil. The ligament on the left side could not be found, although I searched for it over an hour.

Shortening of the Round Ligaments within the Abdominal Cavity. — Dr. Wiley, of New York, in the *American Journal of Obstetrics* has described and figured this operation. Never having performed it myself I quote from his article the main points of his description: The round ligament is caught with forceps, about midway between the pubic bone and the cornu of the uterus. Pulling it up in the abdominal wound the inner side is scraped so that the peritoneal surface is raw. Three silk sutures were passed around the ligament so as to include most of the ligament and bring its folds into close apposition. The ligatures are tied tightly, but not enough so to cut or injure the ligaments. The ligatures are not passed deep enough to injure the bladder or ureter. The uterus was supported by a pessary. The first case, performed three years ago, is successful. The uterus is in position without any pessary. Dr. Wiley states that he had an opportunity to repeat the operation in several cases with good results.

This method of operating necessitated a preceding laparotomy, and in that regard is less advantageous than the regular "Alexander-Adams Operation." With the abdomen opened for some other cause, I think it is certainly warrantable with the successful result which Dr. Wiley has obtained, to make a fair trial of it.

Fixation of the Uterus to the Anterior Abdominal Wall. — I have considered this under the general heading of "Treatment of the Non-adherent Uterus," for the sake of a more practical comparison of the various methods employed to secure anterior fixation of the uterus, contrasting it thus with the other methods of shortening the round ligaments, or the methods to be later described as "Schücking's Method of an Anterior Fixation of the Uterus." The operation is one which, until the present era of indiscriminate laparotomy, has been performed in but few isolated cases and in an experimental way, and usually associated with removal of tubes or ovaries. During the past twelve months it has sprung rapidly into favor. To me it seems unjustifiable unless its performance be guarded with stricter limitations than any of the surgical procedures previously considered. Ventral fixation may be simple or complicated by the separation of the adhesions of a backward displaced uterus, or the association of this latter condition with diseased tubes and ovaries which require removal. The performance of a laparotomy, and the stitching forward of an unattached uterus, in view of the other methods at our command, I consider unwarrantable. The conditions in which it may properly be considered are thus limited to two, namely: Laparotomy performed for the specific purpose of separating adhesions and bringing forward the uterus; or, laparotomy performed for the purpose of removing tubes or ovaries, and incidentally bringing forward the uterus and fixing it. My personal experience is limited to three operations; two of my own and one at which I assisted, and which, the latter history being known to me, I feel may well be included in this report.

CASE I. E. E., single, thirty-four years old; has spent years in receiving uterine treatment and suffered from all kinds of pessaries. Examination shows a retroflexed uterus, attached by broad organized bands posteriorly to the rectum, less so laterally. Both tubes and ovaries prolapsed, enlarged, and so tender no pessary could be borne. I had made one attempt to forcibly replace the uterus without success. I operated, anticipating removal of the uterine appendages would be necessary, on November 16, 1888. After

opening the abdomen and freeing the adhesions binding the tubes and ovaries, a careful examination showed them practically free from disease, therefore I did not remove them. I operated by cutting and tearing all the adhesions binding the uterus, which was so firmly wedged into the pelvis that the hand of an assistant in the vagina was necessary to raise it from its bed. I secured it by two catgut stitches, one upon each side, snugly to the abdominal wall, at the lower angle of my abdominal wound, scraping both uterine and parietal peritoneal surfaces until the blood freely oozed, with the idea of obtaining adhesions which would assist in holding the uterus in its new position. The stitches were passed through the uterine tissues to a depth of quarter of an inch, carefully avoiding the Fallopian tubes though including the abdominal parietes to the depth of one-half inch. The wound was closed without drainage. There was very little bleeding from the adhesions and no ligatures were necessary. The patient made a perfectly normal recovery. On June 4th, seven months after the operation, the uterus was found forward in absolutely unchanged position, and the remains of the adhesions, which for three months could be felt quite prominently in the Douglas fold, were no longer to be detected. The tubes and ovaries lie in a relatively normal position, and are but slightly enlarged or tender. While many of the symptoms have been relieved by this operation, she is still far from well, but a good deal of this is due to her poor general condition. [*Note.* — August 1st, the uterus is still in perfect position.]

CASE II. E. S., thirty-three, single; has also received local treatment for many years; has had fistulæ in ano, the sinuses of which have extended high up both in front and behind the rectum, and in former years have been freely incised, so that the anal and perineal regions form a mass of dense cicatricial tissues. Within the preceding eighteen months I made two attempts to replace the retroflexed uterus, under ether. While there was no evidence of tubal disease, neither of these operations were successful, because of strong, flat, laternal bands, which immediately drew them up backward. Following these two operations, partial success was obtained, so that a pessary was worn with comfort for some months and gave great relief. The uterus flexed over the support again however, and on December 4, 1888, was attached as firmly as ever. Operating at this latter date by laparotomy, I found it impossible to start the uterus from its bed under the promontory without the combined use of the uterine elevator and the hand inside the abdomen. The posterior adhesions were pealed off very rapidly, and the lateral adhesions were found to be the thickened, shortened, broad ligaments, which had become, from long-standing chronic inflammation, converted into cicatricial bands. The tubes lying along the upper part appeared perfectly healthy, also the ovaries, so that I did not feel justified, in deference to the expressed wish of the patient, in removing them as otherwise I should have done. It was impossible to bring the uterus close to the abdominal wall anteriorly, because of the tension which these broad ligaments exerted. Thinking that a stitch inserted from the fundus would be almost certainly torn out from the force with which the uterus was held downward, I put it just outside the fundus around the broad ligament and carried it up into the abdominal wall. A decided hæmorrhage followed this, though no bleeding vessel could be found, but it was necessary to tie a portion of the broad ligament *en masse*. On the left, the rectum and numerous coils of small intestines were found matted together and adherent to the broad ligament. It was impossible to separate these. The uterus was secured only upon one side. The wound closed without drainage, and the patient made an uninterrupted convalescence for ten days, when an abscess, which had given no signs of its presence by temperature, discharged from the abdominal wall forming a fæcal fistula near the opening which enlarged to the size of a silver fifty-cent piece. All the fæces and enemata discharged through this fistula. Subsequently, the uterine abdominal stitch, which was of silk in this case, came away. The fistula gradually closed and the patient was discharged three months after the operation, the uterus retroverted to the second degree, not tender, not adherent as before, and the patient able to go up and down stairs, walk fairly long distances and much improved in her general health. Previously to the operation she had been unable to walk at all.

CASE III. Not my own case. Failure anatomically and therapeutically. Mrs. X. Enlarged retroflexed uterus. Strong flat adhesions extending posteriorly only. The operation was performed in the same manner as the preceding. No complications. The stitches were silk, passed around the round ligament and well into the abdominal wall. Convalescence perfect. At the end of two months the uterus was well forward and still united the peritoneum of the abdominal wall. One month later it was retroflexed and adherent, and surgically and therapeutically the patient as badly off as before.

The report of these three cases constitute, so far as I know, the record of all the cases in this city for which laparotomy has been performed for the specific purpose of separating the adhesions of a retroflexed adherent uterus, bringing it forward and stitching it to the abdominal wall, in which there has been an interval of sufficient time to record an opinion as to the success or not. What are the results? The first case, seven months after operation, the uterus is retained in its new position. The second case, uterus remains partially forward; patient's general condition improved, but a protracted and anxious convalescence. The third case, entire failure.

COMMENTS UPON THE OPERATION.

The technique of the operation under consideration may be quite simple, or may offer decided complications. The new position of the uterus anatomically is faulty, only in a less degree than the old. The suspension of the uterus depends either upon formation of adhesions with the peritoneum of the abdominal wall, or the suspensory strength of the stitches which are inserted; and should the uterus fall away from its new point of attachment, there is an excellent opportunity afforded for the incarceration of a coil of small intestines if these stitches hold, and if they cut out or are removed, then there is nothing to hold the uterus except such adhesions as may have formed.

Schücking's method of anterior fixation, the last of which I shall speak, is practically performed by its originator only. Naturally, he claims good results, but for both theoretical and practical reasons it seems to me so decidedly inferior to other methods that I have never adopted it. It is applicable only to such

uteri as may be free from adhesions. Schücking, stating that the ordinary method of stitching the uterus to the abdominal wall does not produce firm enough adhesions to secure it permanently, proposes to accomplish the result by stitching the fundus directly to that portion of the peritoneum which is reflected backward from the pubic arch forming the anterior pelvic floor; that is, the anterior peritoneal roof of the vagina. A special needle is employed, by which the stitch is carried up through the cervical and uterine canal, passing through the fundus and then forward and downward until it emerges into the vagina, where it is tied and remains until there is a decided adhesive peritonitis set up. The bladder is to be pushed one side by a sound manipulated by an assistant. Schücking states that in twelve cases the stitch passed through the bladder instead of beside it three times, without leaving any bad results.

I have purposely alluded in the briefest way to separating the adhesions of backward displacements when laparotomies are performed for the removal of diseased tubes and ovaries, because it would carry this discussion outside the strict limits of my subject. My own view upon the question is, that unless there are such decided symptoms of trouble from the displacement as leave no room for doubt, it is better to let the uterus alone. If it is decided to attempt its replacement, secure it forward by one of the methods of shortening the round ligaments rather than by ventral fixation.

SUMMARY.

From the results of my own operating I have drawn for my guidance the following rules: —

Be sure that the displacement is the cause of the symptoms. Never resort to operative measures without first exhausting all forms of non-surgical treatment in so far as they may be applicable to the case under consideration. An adhesive backward displacement of the uterus demands for its cure, first, separation of its adhesions; second, anterior fixation. Separation may be accomplished, first, by forcible divulsion without opening the abdomen; second, by laparotomy and subsequent divulsion or cutting. The advantages of the first method are that in suitable cases the patient is exposed to few dangers beyond a simple traumatic peritoneal inflammation. The advantages of the second are that it supplements the first; assuming greater risks it strives for greater successes; the adhesions being dealt with more openly, any accident that may arise is more easily remedied; it can be employed in cases to which the first is inapplicable. It superadds, however, the dangers of a laparotomy.

A backward displacement which is free originally or which has been *freed from its adhesions* may be secured forward. First, by shortening of the round ligaments, either by the Alexander-Adams or Wiley method; Second, by fixation of the uterus to the peritoneum of the anterior abdominal wall, or to that of the anterior pelvic floor (Schücking's method).

Of the four operations, the only one not involving interference with the peritoneum is the Alexander-Adams. I believe that it should be selected, from my own experience of its successful results. I make an exception, that if for any *other* reason the abdomen has been opened, Wiley's operation may perhaps prove its equal.

These round ligament operations leave the uterus in practically a normal position, without undue tension on tubes, intestines, or blood-vessels. There is no danger of fæcal fistulæ or incarceration of the intestines; no interference with subsequent pregnancies. Permanent successful results do not depend upon adhesions or suspensory stitches, and the uterus is left movable, not fixed.

PREGNANCY AND OPERATIVE SURGERY: THEIR MUTUAL RELATIONS.[1]

BY S. C. GORDON, M.D., PORTLAND, ME.
Lecturer on Diseases of Women, P. S. M. I.; Fellow American Gynecological Society, etc.

AN impression exists generally among the laity, doubtless derived originally from the profession, that all operative surgery upon the pregnant woman should be avoided. This extends even to the extraction of teeth, however much the patient may suffer from them.

Undoubtedly, this caution on the part of the profession, arose previous to the days of anæsthetics, from a fear that the shock to the nerve centres would induce abortion. That some foundation for this may have existed in those days is probably true. Even as late as the time of Velpeau we find him saying that "all operations upon the pregnant woman should, if possible, be postponed."

That no such cause for fear should now exist is apparent from the many operations that are being reported in the current medical literature; and yet, while there is much less to fear from the minor operations than before the days of anæsthetics, there always remains the danger from septicæmia, which becomes a powerful cause of abortion or premature labor. I should hesitate much more on this account than any other when called upon to decide in a given case of pregnancy, requiring operative measures. It is more especially with reference to operations upon the pregnant uterus and its appendages that this paper is written.

That ovariotomy has been made with impunity upon the pregnant woman has been demonstrated many times. Removal of the ovaries and tubes, both by accident and design, has shown that operations involving parts very near the uterus, while in the pregnant condition, do not endanger fœtal life. Trachelorraphy, even, has been made upon the pregnant uterus, and the patient has still gone on to the completion of her term of gestation. Of course many of these operations have been done without the fact of pregnancy being known at the time, but like many other valuable truths in medicine, they have been good object-lessons to the practitioner and the profession.

The following case may serve to guide some future worker in the path of safety for his patient: —

Mrs. ——, aged thirty-five, always regular, missed her periods in October and November last, and manifested some other signs of pregnancy. The pelvic pain, particularly in the right side, became frequent and severe, so that her physician, Dr. J. F. Thompson, brought her to me for consultation.

Examination disclosed a small tumor in the right side of the pelvis, somewhat elastic to the touch, while the cervix and os had all the appearance and feel of a pregnant uterus. Directly in the middle line, rising a little above the pubes, was a growth very much resembling in shape and size the fundus uteri at the end

[1] Read before the Maine Medical Association, June 11, 1889.

of the second month of gestation. The peculiarity of it, however, was that it was much harder than one would expect from a state of pregnancy.

From a bimanual examination it was extremely difficult to determine that it was not a part of and continuous with the soft, enlarged cervix. Assuming it to be the fundus, the only theory probable was that the tumor in the right side must be an extra-uterine pregnancy; and the deep-seated pains, coming in spasms, seemed to justify that theory. The one important element lacking, was the absence of any bloody discharge, or shreds of membrane usually found in ectopic gestation.

I advised waiting for two weeks, during which time the suffering increased, and the patient desired something done to relieve her. The more I examined the stronger was my belief that the central growth was a subperitoneal fibroid growing from the anterior wall of the uterus, the fundus of which was flexed to the right, and held down by the pressure of the tumor between it and the pubes.

Laparotomy was advised and consented to, with a view to remove the tumor, if such it proved to be, and was practicable, or in the event of there being tubal pregnancy, to remove it. Section showed a fibroid, ovoid in character, with sessile attachment to the middle of the front of the uterus. Dividing the peritoneum high up around the tumor, I enucleated the mass, leaving the uterine wall very thin from absorption of its muscular coat. It was also very vascular, but stitching the peritoneum and the base of the wound freely with fine catgut, the hæmorrhage was entirely under control. As soon as the pressure from the tumor was removed, the fundus uteri came into place, and assumed its normal position in the pelvis.

Recovery was rapid and without complications, and the pregnancy continued free from further pain or discomfort. At full term, after a long and rather tedious labor, she was delivered yesterday (September 10th) of a healthy male child. The uterine contractions were very severe and frequent during the last hour or two. Near the close she had two or three convulsions. I had more or less fears for the integrity of the uterine wall, but the result shows that the cicatrix was firm.

My experience in this case would lead me to operate in all such cases, where the element of suffering was as prominent, which, if not relieved, may have resulted fatally or in abortion.

RECENT PROGRESS IN THE PATHOLOGY OF THE NERVOUS SYSTEM.[1]

BY PHILIP COOMBS KNAPP, A.M., M.D.

TRAUMATIC NEUROSES.

Sperling and Kronthal[23] report a case of the so-called traumatic neurosis with an autopsy. The patient, a brakeman, forty-two, with no special heredity, was thrown from his seat by a collision, striking his chest and abdomen against the brake-wheel, fainting in consequence. A few hours after the accident a slight abrasion was noted on the forehead. The collision was probably a slight one. After the accident the patient manifested psychical depression and melancholia. He was incapacitated from labor, apathetic toward what formerly interested him, and easily irritated when matters went wrong at home. When he went near a train he turned pale, seemed terrified, grew confused and complained of præcordial distress. The remembrance of the accident also haunted his dreams. He had frontal headache, numbness and tingling in the hands and feet, tinnitus, earache, and spots before the eyes. There was much physical weakness. The intelligence was diminished, the face expressionless; the muscular power in the arms was diminished, the gait broad and unsteady, being worse when the eyes were shut. There was no muscular rigidity or sensory disturbance. The knee-jerk was obtained only on reenforcement. Micturition was difficult and he was almost impotent. The digestion was poor, (he had previously been constipated) and he had much palpitation. After the accident the arteries gradually became rigid. The heart was enlarged and both lungs were emphysematous. Three years after the accident, in September, 1887, the question of damages was settled. For three months after that there was no improvement. At that time hypnotism was tried with remarkable success. Most of the symptoms were relieved, he had fifteen hypnotizations, and extolled the treatment most highly. Massage relieved his constipation, and for some time he was almost well. Later on, however, the respiratory symptoms recurred, he had cardiac asthma, swelling of the hands and feet, and died in January, 1889, of cardiac failure. The autopsy showed œdema and opacity of the pia, arterial sclerosis, dilatation and fatty degeneration of the heart with thickening of the valves, slight pulmonary œdema, slight interstitial nephritis, fatty infiltration of the liver, and atheroma of the aorta. A careful microscopical examination showed marked sclerosis with foci of hyaline and fatty degeneration of the whole arterial system, the cerebral and spinal vessels being especially involved; a peculiar degeneration of the stem of the sympathetic; spots of a mild degree of degeneration in the spinal cord in all portions of the white matter, degeneration of the ganglion cells in a short abnormally formed part of the lower dorsal cord, and hæmorrhage into the middle dorsal cord. This degeneration in the cord is regarded as a result of the vascular disease, which, in the absence of any syphilitic or alcoholic history, is unusual at so early an age. The whole trouble had evidently an organic basis — the disease of the vascular system. The question of importance is whether a sudden charge in the circulation, caused by the accident, can give rise to permanent changes in the blood-vessels.

[In a recent editorial upon this subject,[24] the latest work of Oppenheim and Strümpell upon this subject was reviewed. A number of Oppenheim's patients exhibited signs of circulatory disturbance, rapid pulse, palpitation, and symptoms of cardiac failure. In a personal communication upon this subject,[25] the reporter called attention to the experiments of Mendel and Fürstner on dogs, where rapid revolutions on a circular table gave rise to hæmorrhages and vascular dilatation. The present case is of the utmost importance as affording further proof in favor of the theory that a trauma may give rise primarily to vascular disturbances, and secondarily to structural changes dependent upon them, and as showing that a symptom-complex appar-

[1] Concluded from page 362 of the Journal.
[23] Neurologisches Centralblatt., June, 1889. Nos. 11, 12.

[24] See this Journal, May 30, 1889.
[25] See this Journal, November 1, 8, 1888.

ently of a functional nature may really be due to organic change in the central nervous system.]

Meynert,[26] at a recent meeting of physicians at Vienna, has questioned Charcot's theory that the "hysterical" symptoms of traumatic neuroses are due to auto-suggestion in the hypnotic state produced by trauma. Meynert shows that Charcot's hypothesis that a functional disturbance of the "sensory cross way" in hysterical hemianæsthesia cannot explain the loss of smell, from anatomical reasons, and does not fully explain the loss of hearing because we do not know how the auditory tract runs. Charcot, moreover, gives no explanation of the mechanism of the disturbance. Charcot's theory, however, is supported by the distribution of the vessels, and Meynert himself had called attention to the fact that this region was in the territory of certain large arteries, the profunda, the media, and the artery of the corpus callosum. Kolisko has now shown that various small terminal arteries from the circle of Willis supply contiguous parts. The arteria pedunculi cerebri, or arteria chorioidea, rises from the artery of the fissure of Sylvius, and sends branches to the optic tract and terminal branches to the crus and the basal part of the internal capsule. The vascular supply of the anterior and posterior portions of the internal capsule is not yet absolutely determined, but it is known that the fibres for the face go through the anterior portion of the posterior limb and fibres for the leg through the posterior portion, and it is also known that in hysterical paralysis, where sensory disturbance is commonest, the face and tongue are spared. The healthy man is not to be compared to a hysterical patient, who is familiar with ideas of paralysis. In traumatic neuroses certain symptoms due to cortical disturbance do not occur, notably aphasia and hemianopsia. Considering the relations of this arteria chorioidea with the internal capsule it is more probable that the symptoms are due to some disturbance in its distribution than to a cortical lesion. Convulsions, if general, are more probably due to a disturbance in the lower centres than in the cortex. Although functional paralyses are more curable than cortical lesions, Meynert regards the prognosis as bad and advises against the use of hypnotism.

CEREBRAL HÆMORRHAGE.

Spencer and Horsley[27] have recently made a valuable series of experiments in relation to the cerebral blood-supply and the best methods of checking hæmorrhage. Up to the present time, the only therapeutic measures against the hæmorrhage itself have been the elevation of the head and venesection, and both of these simply diminish the total amount of blood in the brain. The desideratum is to diminish the blood-supply in the region of the ruptured artery, and yet to keep the rest of the brain full of blood to exert pressure on the diseased region and make the clot small. The middle cerebral artery is a direct continuation of the internal carotid; it supplies the motor region of the cortex and gives off the lenticulo-striate artery to the basal ganglia; this latter artery is so prone to be the affected artery in cerebral hæmorrhage that Charcot terms it the artery of cerebral hæmorrhage. On investigation Spencer and Horsley find that the middle cerebral artery does not take part in forming the circle of Willis, and that the anastomoses with it are small and indirect. They trephined a monkey over the artery, put pressure on the common carotid, and found that the pulsation in the artery ceased and the cortex became paler. The anterior and posterior cerebral arteries were unaffected. When the blood-supply to the cortex was cut off its electrical irritability was diminished and soon disappeared altogether, returning on the relief of pressure. After some time, however, if the pressure is kept up, the vessels slowly fill, from the finer anastomoses with the circle of Willis. They next cut across the brain, cutting the middle cerebral and lenticulo-striate arteries. Pressure was then put on the carotid and the lenticulo-striate artery stopped bleeding at once, the middle cerebral oozed for half to three-quarters of a minute and then stopped. At the end of two minutes a clot was formed in the mouth of the vessel firm enough to check hæmorrhage after the pressure was relieved. The results of these investigations have a direct bearing on the cases of ingravescent apoplexy, for pressure on the common carotid must check the flow of blood from the ruptured artery and thus reduce the amount of the hæmorrhage. Reasoning from these experiments therefore, they recommend the employment of pressure in such cases. The only affections likely to be confused with hæmorrhage are thrombosis and embolism, and here pressure would have no effect either good or bad; in hæmorrhage, however, it would certainly check the flow of blood from the ruptured artery, and thus prevent the flow of a large amount of blood, and the destruction of large portion of brain tissue that would necessarily follow.

CEREBRAL INFANTILE PARALYSIS.

Wallenburg[28] reports an interesting autopsy on a case of cerebral infantile paralysis, although in his case the lesion was not in the cortex. A man, forty-nine, had had left hemiplegia, for forty-three years. The arm was most affected, and was contracted and greatly atrophied. The right internal rectus was also paralyzed. The patient died of cardiac disease. The right crus was much smaller than the left and beneath the anterior corpora quadrigemina was found a cyst, chiefly in the tegmentum but extending downwards and involving the middle third of the crusta. Both lateral columns contained an area of degeneration most extensive in the upper cervical region, and most intense in the mid-dorsal region. In the lower portions of the cord it was limited to the pyramidal and cerebellar tracts. The left side showed the most degeneration. Goll's columns were degenerated down to the mid-dorsal region. In the upper dorsal cord the transverse fibres in Clarke's columns had disappeared and there was some atrophy of the ganglion cells, lower down the ganglion cells had disappeared, and the longitudinal fibres were atrophied. About the cyst were noted atrophy of the lateral oculo-motor bundle, of the opposite commissure, of the substantia nigra on the same side, and the middle third of the fibres of the crusta. The columns of Türck were unaltered. The pons medulla and cerebellum showed no gross lesions. The writer thinks that possibly the uncrossed pyramidal fibres went down in the lateral column instead of in the anterior. The other degenerations are less easy to explain, but the hypothesis is advanced that they may be due to lesion of the fillet. The cyst was supposed to be of embolic origin.

[26] Centralbl. f. Nervenheilkunde, 15 June, 1889. No. 12.
[27] British Medical Journal, March 2, 1889.
[28] Archiv. f. Pysch., xix, 297. 1888.

Hoven [29] reviews the literature of the subject. The majority of writers hold that cerebral infantile paralysis is due most frequently to porencephalia, or atrophy of the cortex. He collects seven cases of paralysis due to lesions in the neighborhood of the basal ganglion and reports a case of his own. A man, twenty-eight, had in his early years some cerebral disease with convulsions, which was followed by paralysis of the right arm and leg. There was no return of the convulsions until the age of twenty-five when he had a blow on the head. He used alcohol to excess. There was pretty complete paralysis of the right arm, with contracture and atrophy, but the leg was in fair condition. At the autopsy an old cyst, probably hæmorrhagic, was found in the left centrum ovole, involving a portion of the internal capsule, and affecting slightly the optic thalamus, corpus striatum, and claustrum. The cortex was perfectly healthy. Various authors have maintained that the presence of convulsions was an indication that the cortex was involved in the disease. Hoven thinks that that hypothesis is disproven by the present case, which shows that we may have all the symptoms of cerebral infantile paralysis from a lesion of the deeper parts as well as of the cortex.

CONGENITAL SYPHILIS OF THE BRAIN AND CORD.

Siemerling [30] has made an interesting study of this condition, with the report of a case. The patient was a girl of twelve. The father was syphilitic, but the mother showed no trace of the affection. At the age of four she had a shock, with right hemiplegia (including the face) and aphasia, which passed away. Two years later the sight began to fail, and she had ataxia; the discs were found to be white. After this she went to school, and did fairly well, except that her sight steadily failed. At the age of twelve she began to vomit, had headache and vertigo, and then convulsions; and soon after she grew deaf. It was not easy to test the sensibility. There was post-neuritic optic atrophy. The head was very large; knee jerks normal. The right eyelid was lower, and the right corner of the mouth drooped. The facial paralysis and ptosis increased; the knee-jerks were gradually lost; the headache and vertigo persisted; and the patient became somnolent, and finally comatose. The brain was much compressed, and adherent to the base of the skull. There was a gummatous encephalo-meningitis and hydrocephalus. An irregular gummatous mass was found, involving much of the base of the brain, especially the base of the cerebellum and the brain skin, but extending as far forward as the olfactory nerves. The vessels and nerves were all more or less degenerated, and the former showed true syphilitic endarteritis. The pia of the cord was very much thickened, and in various places there were small tumors. This thickening extended the whole length of the cord, and the growth extended into the cord itself, especially in the posterior columns, and, to some extent, the lateral columns; the gray matter was not much involved. The veins showed phlebitis obliterans. The nerves were often destroyed by pressure or by direct infiltration.

PARALYSIS AGITANS.

Borgherini [31] has recently made an admirably study of this disease, based on four cases under his own observation, one of which came to autopsy. He lays much stress upon the neuropathic taint, clearly present in three of his patients, as a predisposing cause. He also cites a family where seven out of nine children had the disease, and it was present in three of their descendants in the next generation. Trauma, rheumatism, and, above all, psychical disturbance, are important as exciting causes. The tremor usually begins in the right hand; but in one of his patients, who was left-handed, it began in the left. In all his cases the head was involved, and disturbances were noted in several of the motor cranial nerves. The tremor is distinctly modified by psychical disturbances; and this, he thinks, does not militate against the theory of a cortical origin of the disease. Respiration is often slower, and the pulse is sometimes more rapid. The temperature was not much affected, but in most cases the subjective feeling of heat described by Charcot was present. Sensibility and reflexes are usually normal. The muscles are often in a state of exaggerated tension, which, like the tremor, can be partly but not wholly controlled by the will. The muscular force is diminished, and the rapidity of movement, as shown by counting or tapping, was greatly impaired. The latent period of contraction to the electric current was increased, as Mendelssohn has noted, and there was a quantitative diminution; the resistance of the body was probably increased. The urine contained rather more urea and distinctly less phosphoric and sulphuric acid than normal. Borgherini regards the propulsion, pro-lateropulsion or retropulsion as of a mechanical character, and due to the inclination of the body. In the autopsy reported there were found an increase of nuclei in the walls of the vessels of the brain and cord, especially in the pons, and changes in their calibre; a slight, inflammatory thickening of the pia; a thickening of the ependyma of the fourth ventricle; with an increase of connective tissue in the gray matter of the pons, and some atrophy of the gray matter. In the cord itself signs of perimyelitis were more conspicuous, and in the pyramidal tract there was considerable increase of connective tissue. The central canal contained many nuclear elements, and the vessels were much altered. A similar increase of connective tissue was noted in the nerves, muscles and sympathetic ganglia. In the latter was seen a pigmentation of ganglion cells. Similar muscular changes were noted in a bit of muscle excised from another patient. The important changes were those of the vessels, and the hyperplasia of the interstitial tissue, affecting the nerve elements: the latter affected the motor regions chiefly. Other autopsies are cited; and the author agrees with Vulpian, Demarge and Tessier, that paralysis agitans has an anatomical basis. It cannot be regarded as systemic, but rather diffuse, affecting the gray axis and the white matter of the pons medulla and cord.

Borgherini, in his cases, noted an increase of urea, and a decrease of phosphates and sulphates. Mosse and Banal [32] have made special researches on two patients for several weeks, controlling their results by similar investigations on persons of the same age under similar surroundings. They find that in paralysis agitans the excretion of urea and of total phosphoric acid is less than the physiological average in the young adult, but greater than the average in healthy persons of the same age, The excretion of

[29] Archiv. f. Psych., xix, 563, 1888.
[30] Archiv. f. Psych., xx, 102, 1888.
[31] Rivista sper. di freniatria, xv, 1, 1889.
[32] Revue de médecine, July, 1889.

incompletely oxidized phosphoric acid is less than in either. The sulphuric acid is greater than in the young adult, but slightly less than in the old. Per kilogramme weight, urea and total phosphoric acid are greater than normal, incompletely oxidized phosphoric acid less; the gain in urea being the greater, which indicates that the muscular trouble favors combustion.

Reports of Societies.

AMERICAN DERMATOLOGICAL ASSOCIATION.[1]

DR. ZEISLER addressed the Association on the subject

CLINICAL NOTES ON SYCOSIS CAPILLITII.

He had found very little said about the disease in the different text-books. In a case reported by Hebra in the *Vierteljahrschrift* in 1876, it was said that the skin was somewhat elevated and sclerotic, so that a fold of it could not be pinched up. There were small nodules and pustles, perforated by hairs, generally in bunches of ten or twenty, and the depilation of these hairs is almost impossible. Two cases that he had seen were of especial interest in relation to the last paper read on dermatitis papillaris.

One of these cases had had abscesses on the scalp for six months. The scars left after the healing of these abscesses, which had been opened, were not linear, but raised and thickened on each side. Tufts of hair were very prominent, and at these points the patient complained of an itching sensation. Depilation, with shaving of the head and antiseptic lotions were used, and the scalp was entirely free in about three months, although there have been slight recurrences. A second case presented similar features. In each one of these patients he had noticed that the hair upon the scalp was very thick. This recalled Wirtheim's explanation of the cause of sycosis; namely, that it was a disproportion between the diameter of the hair and the follicle, resulting in pressure. Although this might be a predisposing cause, yet the reader believed it was the entrance of the staphylococus aureus and albus which caused the affection. It is, therefore, a local disease, and constitutional remedies are not indicated.

DR. ROBINSON explained the meagre literature that had been found by the reader by the fact that the name had been stricken from the list at the first meeting of the Association and was not put back until three or four years ago. He did not agree at all with Wirtheim's views. When we have pustules form they are, of course, due to organisms, but many lesions occur which are not pustules. In the pustules of acne you get the same organisms. In every case there is a predisposing cause. The best treatment is to render the soil uncomfortable for the organisms by the use of constitutional remedies.

DR. BULKLEY had seen cases in young men which he had put down as folliculitis of the scalp, where papules or pustules were formed. In these cases a permanent baldness of the spot affected remained. One case was cured finally; in a second case the treatment was neglected, and he seems to be growing worse. In both these cases he was sure there was a constitutional cause.

[1] Concluded from page 369 of the Journal.

DR. FOX referred to the case that he had published in the first edition of his photographic illustrations where the hair grew in large tufts upon the surface of a keloid in a colored man.

DR. HARDAWAY thought it not uncommon to see negroes with tufts of hair growing from the same point in the skin.

DR. DENSLOW reported a case where small nodules appeared deep in the scalp very much like those which are seen in deep-seated acne, and accompanied with burning and itching; they were opened, a small scar was formed and the hair was lost. As a young man this patient had had a very severe attack of acne, especially upon the shoulders. In this patient it was noticed that the mouth of the follicles upon the face were patent. It was discovered afterward that he had a stricture at the meatus, and the urethra was in a highly sensitive condition. Under the combined treatment there has been no recurrence.

DR. HEITZMANN thought the diseases which had been mentioned could all be classed together, and he preferred the name of folliculitis, as used by Dr. Bulkley. In some of the cases we have atrophy and sometimes we have hypertrophy.

DR. ROBINSON thought the names were used according to the location, and the fact that the cause was the same had nothing to do about it. The case was comparable to that of broncho-pneumonia and bronchitis which are separate diseases, although the cause is undoubtedly the same. In sycosis or eczema or acne the cause is the same, but the seat is different, and the clinical history is different.

DR. GRAHAM had an experience in one case which led him to believe that the disease was not local simply. The case was one of sycosis. A typhoid fever came on and during its run the sycosis disappeared, only to return again after the fever had abated.

DR. ZEISLER replied that it was long since established by Hebra that during fevers many local diseases are arrested temporarily.

DR. SHERWELL reported an instance of

RELAPSE OF PIMPHIGUS FOLIACEUS AFTER ELEVEN YEARS QUIESCENCE.

The case had been reported in the Archives of Dermatology for 1877 and also in 1878 before the American Dermatological Association. The treatment in the first instance and in the relapse was mildly protective. The patient recovered and was entirely well until March of the present year. She was now twenty years of age and healthy. At the beginning of the attack there was general febrile disturbance, anorexia, chill, and irregularity of the bowels. The eruption commenced as an erythema, over the front of the chest and arms, followed by the appearance of vesicles with the peculiar sour-milk-like contents. The temperature 102.7°, pulse 115. The eruption spread rapidly over the entire body. She recovered entire within three weeks. Dr. Fox, who had seen the case at one stage remarked that it looked like a case of pityriasis rubra.

DR. Sherwell also reported a

CASE OF IMPETIGO HERPETIFORMIS.

The patient was Mrs. K., thirty-two, under the care of Dr. Risch, of Brooklyn. She had had five living children and several miscarriages. In 1884 she had a slight eruption consisting of bullæ, which became

puriform. In the summer of 1888, when three months pregnant, she suffered with gastric disturbances and about October 1st, she first noticed an eruption similar to the one she had had before. At that time it resembled scabies very much, but did not get well under treatment. Crusts looking like impetiginous eczema, formed, and the nervous system became a good deal affected, there being a constant tremor of the limbs. Dilute hydrocyanic acid was used as a dressing with benefit, but in November another relapse occurred. When seen on November 23d she was in a pitiable condition, moving the limbs with uncertainty and difficulty; pulse weak, temperature elevated. The eruption was of the small impetiginous variety, apparently spreading in a somewhat wavy line, and the diagnosis of impetigo herpetiformis was made upon that observation. Arsenic was administered. On December 23d she gave birth to a non-viable child. After this numerous relapses of the eruption occurred until the middle of June, at which time she was free and has remained so ever since.

The writer believed that all these cases were due to absorption of suppurating and effete matter. One case had occurred during an attack of diphtheria, and if it had been chronic would have been considered a case of this kind. It had been reported that Dr. Duhring had given up his idea that this disease belonged to the group of dermatitis herpetiformis, and if it were so the reader was sorry, for he believed that that view was the correct one.

DR. HEITZMANN said that Kaposi had criticised him for reporting a case of this disease because the woman in whom it had occurred was not pregnant, but it happened afterward that a man came to the clinic in whom Kaposi, himself, was obliged to make the same diagnosis.

DR. BULKLEY, referring to a remark made by the speaker, said that this disease was not at all like the cases which he had reported under the name of herpes gestationis, differing in the character of the lesions, in the absence of lines of gyræ and in the fact that it is never fatal. It seemed to him that this was a disease *sui generis*.

DR. ROBINSON preferred the term of hydroa for this class of diseases.

DR. HARDAWAY reported a case of pemphigus foliaceous in a gentleman sixty years of age, beginning on the chest, making slow progress for the first few months and then progressing rapidly until the whole cutaneous surface was invaded. The speaker had had at the same time under observation a case of pityriasis rubra and there was a period in the history of the two cases when they looked absolutely alike; a fact which, in his mind, gave a good deal of color to the idea that they were one and the same disease, representing different processes of the same trouble.

DRS. KLOTZ and MORROW also took part in the discussion.

DR. BRONSON, of New York, read an account of

A RARE FORM OF SKIN DISEASE.

The patient was a boy of fourteen, seen at Charity Hospital. He had a swelling of the forehead, eyes and mouth, with the formation of scales and crusts over the cheeks. There were papules, tubercles and pustules and encrusted ulcerations over the face, and also rounded or irregular cicatrices on various portions of the face, the scalp being free. The cervical glands were slightly enlarged. Scattered over the trunk and extremities were lesions similar to those upon the face, while between the patches the skin remained for the most part normal. Considerable pus could be obtained from the ulcers.

The primary lesion seemed to be a pustule or papule, the disease first affecting the hair follicles. This might undergo ulceration, leaving a slight papule, or a pustule might form. A year and a half ago a sore came upon the right ear, and about the same time an abscess came upon the neck, resulting from a suppurating lymph gland. He was working at that time in a paper manufactory. General health good; urine negative. After two months the ulcers were healed, and the swelling of the face was less. He was discharged from the hospital, but a little later was looked up, and found to be in St. Frances' Hospital in Jersey City. At this time the eyelids were enormously swollen, forming a fold above the brows.

Primarily the disease seems to have been an acne, and the only diagnosis that the reader could make was acne cachecticorum. It was at first thought that there might have been arsenic in the paper on which he was working, but on investigation that view had to be given up. But even if it had been so, we would suppose that the eruption would have disappeared after the removal from the exciting cause. There was no appearance or history of syphilis. The œdema of the face was hard to account for, but probably there was a local cause, perhaps the presence of confined pus in the deeper parts of the skin.

DR. SHERWELL thought that dermatitis necrogenica would be a good title, on account of the absorption of necrobiotic elements, which were having an action upon the nervous system.

DR. MORROW had seen the case, and thought it resembled most nearly cases of arsenic poisoning that he had seen. While not entirely satisfied with Dr. Bronson's diagnosis, he could not suggest a better one.

DR. BRONSON was willing to accept the diagnosis of dermatitis herpetiformis if there was such a disease. One of the important features was the distribution of the eruption, which was similar to that of dermatitis herpetiformis, showing that the same pathological motive is present; and yet the clinical disease runs a very different course from that of Duhring. It seemed to him that the fact of the relapse occurring was sufficient to indicate that it was not arsenical.

The discussion was also participated in by DRS. BULKLEY, KLOTZ and ALLEN.

THIRD DAY. — THURSDAY, SEPTEMBER 19th.

MORNING SESSION.

The Secretary read a paper written by DR. STELWAGON, of Philadelphia, entitled,

A CASE OF URTICARIA PIGMENTOSA.

The objective symptoms are almost always the same in the cases classed under this head, for mid-way cases between this type and the ordinary urticaria, are rarely seen. It would almost appear that this was a peculiar disease by itself. The case reported occurred in a boy of six, who had a good personal and family history. The disease began at eight months, after two unsuccessful attempts at vaccination. The eruption was most abundant upon the covered portions

of the body at first, but later there was a disposition for them to appear upon the face. The disease had been present constantly since its first appearance, the older lesions disappearing without leaving a trace. The eruption consisted of rounded elongated reddish papules, sometimes surmounted by a small vesicle, varying from the size of a pin-head to that of a large pea; there were also small flattened yellowish lesions, the size of a pea, and of a salmon color, and other spots, where recovery seemed to be taking place, with nearly normal skin, slightly atrophied and pigmented. The first appearance of the lesion is not unlike that of the wheal of urticaria, but smaller and less inflamed. The itching was slight. No other lesions than these were found at any time. The changes from the beginning of the eruption until the disappearance of the lesion would require weeks or months. The treatment has been without influence.

Dr. Fox had an impression that the disease was not correctly named, although he could not suggest a suitable term for it at the present time. It seemed to him that the pigmented lesions were the essential features of the disease, and that the urticarial element was secondary. It would be interesting, in these cases, to note the condition of the skin after a series of years, in adult life.

Dr. Heitzmann did not agree with the last speaker. He thought we should not lay too much stress upon the presence of pigment. He would admit that there was a trophic neurosis leading to the œdema, which goes deep down to the subcutaneous tissue. In the ordinary cases there is a œdematous infiltration, without extravasation, and then we have the whitish color. But if there is stagnation, with exudation of blood, then we have blood corpuscles mixed with the œdematous liquids. It seems to be the same as ordinary urticaria, plus hæmorrhage into the wheals.

Dr. Fox did not mean that the pigment was characteristic, but that the lesions are not of the nature of an urticaria. The pigment is a fact of minor importance. There is simply an urticarial element associated with the lesions.

Dr. Taylor had seen a child, twelve years of age, who had suffered with this disease until the sixth year. At the time of the observation she had the appearance as though she had an intense erythematous spyhilide.

Dr. Hardaway, of St. Louis, read a paper entitled

DERMATOLOGICAL HINTS.

(1) Spontaneous involution of sarcoma. He had reported the case in 1882; it was an alveolar pigmented sarcoma of the skin. The face, hands and feet were affected, and there was swelling of the lymphatic glands. At that time the disease had existed eight or ten years. In 1884 a number of deposits had occurred on the hands and feet. A recent inspection, fifteen years after the beginning of the process, shows that the disease is arrested. The tumors have all gone, leaving an atrophic condition of the skin. He had never received treatment. At about the same time another case of fibrosarcoma was reported; the patient was put upon arsenic, and died within six months, having been sick two years.

(2) Disappearance of an extensive eruption of xanthoma. A paper was read in relation to the case in 1884. All parts of the body were affected. Since that time there has been a gradual involution of the disorder. In four years from the time of the conservation the lesions have undergone complete involution, though the bronzed hue still remains. He received no treatment whatever.

(3) Case of bullous eruption in a child. The patient, eleven years old, had had measles four years before, and the present eruption came on a month after recovery from that disease. The skin was elevated and reddened. Often whole areas of sound skin would be surrounded by the bullæ. Under the use of arsenic the intervals between the attacks was materially increased, and such lesions as made their appearance were more or less aborted.

Dr. Heitzmann remembered the case of sarcoma. He recollected that he had predicted that the course of the disease would be a slow one, on the ground that the pigment was diffused and not granular. He had read of one case of sarcoma in the tonsil of a child where recovery took place spontaneously.

Dr. Greenough asked how Dr. Hardaway would exclude chronic relapsing urticaria.

Dr. Hardaway replied that there was no pruritus in the case.

Dr. Taylor spoke of a case where bullæ appeared in large numbers, and in the shape of most perfect rhombs and parallelograms. At first it was thought the patient must have caused them herself, but that source was excluded.

Dr. Bronson called attention to the instances of intense neuralgic pain sometimes accompanying sarcoma of the skin. In one case the lesions were upon the face and extremities especially, and occurred in the form of very superficial and somewhat tough lesions, the largest having an area of an inch and varying color from reddish to deep purple. The pain was the most prominent feature. There was no evidence of the growth of tumors in the inside of the body. The patient finally died, apparently of exhaustion. No autopsy was permitted. The observation has been made that these cases of pigmented sarcoma of the skin are most common in Hebrews. It would be an interesting point to settle.

Dr. Bulkley thought that this would be a proper subject for one of the regular meetings of the Association. He thought, with Dr. Greenough, that a good name for these cases of hydroa and dermatitis herpetiformis would be chronic urticaria, with tendency to vesication.

Dr. Graham here read the histological report of the case of herpes zoster that he had reported on the first day of the meeting, and exhibited specimens under the microscope. It was found that the ganglia were extensively invaded by leucositis, some of the latter having taken the place of the destroyed nerve cells. In this case it seemed as if the diplococcus was the irritant element. No inflammatory processes were found in the pons medulla or cerebellum from the same subject.

Dr. Heitzmann said that the fact that the ganglion cells were affected in this disease had been known for twenty-five years, but now it was interesting to find micrococci in the ganglia, and perhaps that means that we shall find the real cause of the disease. It seemed to him that the bacteria shown were a new variety. He hoped the next opportunity for such study would be improved, and if possible cultures made from the tissues.

A paper was read by the Secretary, in the absence of the author, DR. STELWAGON, entitled

ON THE ALLEGED TOLERANCE OF THE IODIDES IN SYPHILIS.

The author would deny the statement made by Dr. H. C. Wood, that there is a toleration of the iodides in the case of patients who are affected with syphilitic lesions. Perhaps there might be a certain ground for the belief in the case of those who had cerebral syphilis, but if it were so it was not on account of the specific effect of the disease, but because the central nervous system was the part affected, and from a similar lesion any other cause would have a similar result. The writer gave briefly the history of five cases of syphilitic skin disease in whom the assertion was certainly not true. Moreover, in investigating the influence of the iodides in psoriasis, he had found cases that bore the remedy quite as well as any cases of syphilis could have done.

DR. TAYLOR thought the statement of Dr. Wood had been thoroughly disproven by Dr. White. There is no difference in this respect between the syphilitics and non-syphilitics. The speaker thought that we were inclined often to weaken in giving the drug in the cutaneous cases, whereas we push it more strongly in the nervous cases, under the view the case is a desperate one. Sometimes there will be a toxic effect at one time, and none at all at another. It seemed to him that many of the cases that Dr. Wood had treated had gone through the stage of acclimatization, so to speak.

DR. GREENOUGH referred to the fact that sometimes patients who cannot take small doses will bear larger ones perfectly well.

DR. TAYLOR, in reference to this point, recalled the case that he reported a year ago, and said that the eruption was brought on at the very beginning of the treatment; but the iodide had to be continued, on account of the patient's general condition, and after a time he could take two or three drachms without any influence upon his eruption or any inconvenience.

DR. DENSLOW mentioned the case of a man who had undoubted syphilis, and who was laid up sick in bed every time the smallest amount of iodide was given him.

DR. BULKLEY spoke of the value of giving arsenic in connection with the iodide. He had reached as high as ten drops of the Fowler's solution.

DR. TAYLOR did not believe the arsenic did any good where the iodide caused coryza; but where there is a disturbance in the skin, with a tendency to form dermal lesions, the arsenic, he thought, would hold the inflammatory condition in check. And yet it will fail utterly in some cases.

DR. FOX asked the effect upon the action of the bromides.

DR. HARDAWAY had seen it tried in a good many cases, and had never seen good effects.

DR. FOX believed that the bromine and iodine might produce lesions one week, and be taken without trouble the next; so that he was coming to believe that all supposed effects of arsenic, at least in the case of bromide, were simple cases of coincidence.

DR. BRONSON spoke of the fact that the acne in bromism is more aggravated than in iodism, as perhaps having a bearing in the case.

DR. TILDEN exhibited a boy, of whom mention had been made in reference to prurigo, and he was examined by members of the Association.

DR. BRONSON was fully convinced of the diagnosis. In his mind, the essential feature was the neurosis affecting the particular portions of the skin.

DR. FOX agreed to the diagnosis. In his mind, there was a doubt as to the propriety of separating the disease prurigo from chronic papular eczema. The history of the case, however, separates it from eczema, since the latter tends to get well, sooner or later, without treatment.

DR. ALLEN, of New York, remarked that the diagnosis might almost be made from the peculiar pallor of the face which was present in this case. In a patient that he had under observation, the body was covered with moluscum tumors which seemed to have developed upon the prurigo base, from the scratching.

DR. BULKLEY was ready to admit that, perhaps, American dermatologists had been too prone to place some of these cases under the head of eczema. It would be better, perhaps, to call some of them by this name.

DR. TAYLOR thought the cases had sometimes been presented to the Society in the evening, and the light had interfered with correct ideas of the lesions.

DR. ZEISLER considered the case a typical one. The cases in Vienna are not so very frequent. They are brought into the clinics again and again. The difference between the papular eczema and this case is striking. The joints, hands and face will be most affected, and in this disease are free. Even though we have too many terms in dermatology do not let us throw away distinct pictures of disease. If we call this a papular eczema we produce a terrible confusion.

DR. FOX would base his opinion as to the entity of the disease on its occurrence in early life, its neurotic origin and its duration, but not upon the fact that certain parts of the body are effected or upon the deep-seated character of the lesions.

DR. TAYLOR returned the thanks of the members for the hospitality that had been accorded them at the hands of the Boston members. A fitting response was made by DR. GREENOUGH in behalf of the Boston members.

On a motion of Dr. FOX, it was voted to extend the thanks of the Association for the use of their rooms, to the Boston Medical Library Association.

THE AMERICAN PEDIATRIC SOCIETY.

FIRST Annual Meeting, held in Washington, D. C., September 20 and 21, 1889.

FIRST DAY. — MORNING SESSION.

The Society was called to order by the President, DR. A. JACOBI, of New York, who delivered an address of which an abstract follows:

PRESIDENT'S ADDRESS.

Progress and success, in order to be complete and unmistakable, require centralization of means and a co-operation of men. The isolated labors of the greatest men in the history of science never accomplished anything beyond a spasmodic and stationary advance. The best results are obtained by the voluntary association of scientific men all over the world. He had hailed with delight the proposal of the forma-

tion of the American Pediatric Association. Thirty years ago he had attempted the formation of a section for the purpose of studying the diseases of children in the New York Academy of Medicine, but failed. The points which establish the claims of pediatrics to be considered a specialty were next referred to. Pediatrics does not deal with minute men and women; with the same class of diseases in smaller bodies, but it has its own independent range and horizon. It gives as much to general medicine as it has received from it. Internal medicine owes many of its best results to the observations made on infants and children. The surgery of infancy and childhood is peculiar, and some of its operations are almost exclusively adapted to or necessitated by the surgical diseases of the young. The connection of pediatrics with neurology is also very intimate, and many of the most interesting neuro-physiological data have been secured by our special colleagues. Neuro-pathology also owes many results to observations made on infants. Neurology's sister, psychology, is indebted for much of its wealth to the study of the intellectual life of infancy and childhood.

The history of the embryo and fœtus finds its legitimate termination in that of the infant and childhood. Thus embryology, teratology and pedology, with pediatrics, are but chapters of the same book. The scientific consideration of any one of them is impossible without that of the others. The theories of heredity and consanguinity refer equally to all. Many examples of the intimate correlation between embryology and the malformations, and the disease of the child were given. The most vital questions of public hygiene are intimately connected with pediatrics. It is mainly two subjects which attract attention in this connection, — the school and constitutional disease. Emphasis was laid on the fact that it still appears that our schools were establishments, organized to promote near-sightedness, scoliosis, anæmia and both physical and intellectual exhaustion. Unless the education and training of the young are carried on according to the principles of a sound and scientific physical and mental hygeine, neither the aim of our political institutions will have been reached nor the United States fulfil its true manifest destiny. That manifest destiny is not so much the political one of excluding Europeans from our continent, — north or south, — for indeed the participation of European civilization in the gradual work of removing barbarism ought to be very welcome, — but of raising the standard of mental and physical health to possible perfection and thereby contributing to the welfare and happiness of the people. Another subject in which pedology and pediatrics are profoundly interested is that referring to constitutional and infectious diseases. Most of these belong to early life, and the vast majority of them can be avoided, mortality greatly diminished and ill-health resulting therefrom diminished.

TWO CASES OF DOUBLE EMPYEMA,

by DR. FRANCIS HUBER, New York.

CASE I. B. S., thirteen years old, met with an accident January 4, 1889. A few hours later had a chill, pain in the chest and bloody sputa. He was seen by the speaker on the third day of illness, when a diagnosis of double pleuro pneumonia was made. The condition became worse, and on the fifth day of illness the respiration reached 60 and the pulse 150 per minute, while the temperature was 104.5° F. He then gradually improved, and on the fourteenth day fluid was detected. Exploratory puncture showed pus. January 27th, the right pleural cavity was evacuated and over a pint of pus withdrawn. February 2d, the left side was treated in a similar manner, and two large drainage-tubes inserted. The general condition contraindicated any extended operation. February 6th, the right pleural cavity was incised and drained. Large quantities of pus continued to escape from both sides. The patient gradually improved, and both tubes were dispensed with. April 17th, the pulmonary expansion was complete, breathing distinct over both lungs, no dulness and general condition excellent.

CASE II was reported through the courtesy of Dr. Newfield. The patient, five and one-half years of age, fell from a wagon. This was followed by some pain in the head, fever and cough. He passed into a typhoid state with symptoms pointing to lesion of the thorax. Exploratory puncture on the eighth day of his illness revealed acute empyema. The same evening the right pleural cavity was opened and drained. Same days later the left pleural was treated in the some way. Improvement was rapid and pulmonary expansion good.

SUBCUTANEOUS EMPHYSEMA IN CHILDREN,

by DR. CHARLES WARRINGTON EARLE, Chicago.

The following case was reported. H. J., age three one-half years, was seen November 26, 1888, with catarrhal pneumonia. There was no effusion of any consequence. December 10, 1888, the speaker was hastily summoned with the statement that the child was enormously swollen. The subcutaneous tissues of the forehead, cheek, neck and entire trunk, anterior to Poupart's ligament and posterior to the iliac crests, were filled with air. The child was bandaged from head to foot, and supporting and stimulating treatment administered. The child at first improved, but gradually signs of exhaustion appeared, and it died on the tenth day. The propriety of puncture of the skin at different points was considered, but was not employed as it was thought it would add the additional danger of infection. Reference was then made to other reported cases, and to the literature of the subject.

MEMBRANOUS CROUP (LARYNGO-TRACHEITIS) IN A GIRL TWELVE YEARS OF AGE; TRACHEOTOMY RECOVERY;

by DR. A. CAILLE, New York.

July 1, 1889, the speaker was requested to intubate in a case of laryngeal sternosis. The temperature was 100°. The submaxillary glands could be felt. The voice was husky, and there was a short, dry cough. No membrane was visible in the nose or throat. The dyspnœa was moderate. The diagnosis of membranous croup made by the attending physician was agreed in. The dyspnœa not being urgent, operation was postponed. The next morning the child had a choking spell during which a piece of membrane was coughed up. Auscultation showed little respiratory murmur over the left lung. There was good murmur over the right lung. Relief followed the expulsion of membrane, but the dyspnœa returned that afternoon and tracheotomy was performed. The tube frequently became occluded, giving rise to attacks of dyspnœa. Convalescence was interrupted by an at-

tack of purulent bronchitis, but the patient ultimately made a good recovery.

DR. CHARLES WARRINGTON EARLE, of Chicago, then read a paper on

THE NECESSITY OF PROLONGED REST AFTER SOME ATTACKS OF DIPHTHERIA.

The author referred to the frequency with which sudden death occurs in attacks of diphtheria. He insisted that in this disease, from first to last, the recumbent position should be maintained, not to be relinquished for any purpose. The most nutritious diet should be employed. Nerve tonics, strychnia, nux vomica and electricity with general tonics are also indicated, but before everything else, the recumbent position is to be insisted upon.

AFTERNOON SESSION.

The first paper was that of DR. J. HENRY FRUITNIGHT, New York, on

THE TREATMENT OF SCARLET FEVER,

taking up in detail the various indications for treatment presented by this disease and giving the treatment which had proved most satisfactory in his hands. The management of the complications of the disease was also considered.

DR. L. EMMETT HOLT, New York, presented a specimen from a case of

CONGENITAL DEFORMITY OF THE HEART.

The apex was about as far to the right as it is usual for it to be to the left, the middle lobe of the right lung being hollowed out for the reception of the organ. There was a single ventricle, the pulmonary artery and aorta arising from a common cavity. There was marked pulmonary stenosis. Both auricles communicated freely with each other and with the common ventricle. The ductus arteriosis was closed. The child had lived to the age of seventeen months in a cyanosed condition, and had died from acute pleuropneumonia.

APPARENT PHYSICAL CONTRADICTION INVOLVED IN THE REINFLATION OF A COLLAPSED LUNG WHILE AN OPENING REMAINED IN THE PLEURAL SAC,

by DR. J. O'DWYER, New York.

The various theories which had been suggested to explain this phenomenon were taken up and discussed. The one which seemed best to fulfil the condition was that which attributes the reinflation of the collapsed lung to forcible expiration while the glottis is partially or completely closed. Cough is probably the most powerful of these efforts. It is reasonable to suppose that, under these circumstances, some of the air will be forced into the collapsed lung. Reinflation of the collapsed lung can be completely accomplished by cough alone; and the only mystery that surrounds the subject is the occurrence of some force by which the lung can be held in that position long enough for adhesions to occur. The author suggested the possibility of a physico-chemical force generated by the interchange of gases in the pulmonary residue, which would supplement the pressure of the atmosphere in drawing air into the lungs, or at least in holding it there when once admitted. If such a force exists, it must be the result of the attraction between the oxygen and hæmoglobin, for here we have to do not with simple diffusion, but chemical union.

(To be continued.)

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VENTILATION OF PUBLIC SCHOOLS.

EARLY in June last the City Council of Boston passed an order directing the Board of Health to examine the school-houses of the city and report their sanitary condition to the *press*, as though the latter were a co-ordinate branch of the city government. In compliance with this extraordinary order such a report has just been published. A careful perusal of this document leads one to the conclusion that either the order was not seriously received, or the report was intended to cover no more than the strict letter demanded without regard to the spirit.

It is probable that the ultimate object of the order was to give to the public some definite and reliable information as to the condition of the schools, the public mind being at the time in a condition of considerable unrest, owing, no doubt, in part to extravagantly worded articles frequently appearing in the daily press.

The report which has been called forth gives, however, no facts concerning any particular building in detail, but communicates its results as to all the schools *en bloc*. No parent can be any the wiser as to the condition of the particular building within which his child is in daily attendance, from any information here supplied, but on the other hand, he may be still further alarmed by the very comprehensive condemnation implied in that portion of the report which treats of ventilation. It is to this part that particular exception must be taken by anybody with any theoretical or practical knowledge whatsoever of the science of ventilation. The report says, "Of the 163 houses, 146 are without any modern or efficient means of ventilation, being dependent upon the old-fashioned shafts in the wall, aided here and there by small apertures through the external walls; all of which is too feeble to be called ventilation." This is doubtless intended to mean that in 146 houses, out of 163, the inlet currents of fresh air and the outlet flow of foul air are so feeble that the result may not be called ventilation.

This conclusion is not based upon actual observation and experiment in the 146 houses, but rests upon the very insecure footing of an inaccurate inference. The process of reasoning here employed appears to be, — no house not provided with power ("heated shafts or fans") can have anything not too feeble to be called ventilation; 146 houses are not so provided; hence 146 houses have no ventilation.

But it would appear that even in the remaining seventeen, which are furnished with modern means, the ventilation is by no means so perfect as to warrant more than this faltering endorsement: "In eleven of the school-houses the extraction of foul air has been *more or less promoted* by the aid of heat applied to the outlet shafts to increase the current of air, and in six others the same object has been sought and *more or less effected* by the use of exhaust fans in the tops of the buildings." [Italics ours.] Thus it appears that 146 are not at all, and the remaining seventeen only "more or less" ventilated. This is certainly not very reassuring to the thousands of parents directly interested in our public schools.

But we are further informed that "the practicability of ventilating schools admits of no doubt. It is as much a matter of exact knowledge as any other question in mathematics or engineering. . . . This can be done only with the aid of power, and may be accomplished by heated shafts or fans. . . . All dependence upon natural ventilation should be abandoned as delusive and untrustworthy, and the simple question of expense for the use of the necessary power to move the air be recognized and met without further delay."

We very much doubt that the Board can find any authority on the subject in support of their views. The "old-fashioned shafts in the walls" are by no means under sentence of banishment; good ventilation is not impossible without "heated shafts and fans." The value of natural ventilation is no delusion, and the matter of expense in the introduction of power is anything but simple. It is a matter of common knowledge that many of our schools in which only the "old-fashioned methods" are employed, enjoy excellent ventilation. Simple means of ventilation intelligently operated *may* be practically of more avail than expensive and complicated systems which offer greater opportunities for mismanagement.

It is to be hoped that the report will not be taken with too much seriousness by those to whom the matter of ventilation of public buildings and school-houses has been intrusted by Chapter 149 of the Acts of 1888, from which we may quote as follows:

"Every public building and every school-house shall be ventilated in such a proper manner that the air shall not become so exhausted as to be injurious to the health of the persons present therein. . . . Whenever it shall appear to an inspector of factories and public buildings that further or different sanitary provisions or means of ventilation are required in any public building or school-house in order to conform to the requirements of this Act, and that the same can be provided without incurring unreasonable expense, such inspector may issue a written order to the proper person or authority directing such sanitary provisions or means of ventilation to be provided, and they shall be provided in accordance with such order by the public authority, corporation or person having charge of, owning or leasing such public building or school-house. . . . Any school committee, public officer, corporation or person neglecting for four weeks after the receipt of an order from an inspector, as provided in the preceding section, to provide the sanitary provisions or means of ventilation required thereby, shall be punished by fine not exceeding one hundred dollars."

This chapter, it will be seen, empowers any inspector, who may accept the views expressed in this report, to order every school to be virtually remodelled (the expense being a simple matter and hence "not unreasonable"), so as to be provided with the necessary power, and in case of non-compliance to cause much personal inconvenience.

It is also to be hoped that should the Mayor be authorized to appoint a committee of experts, as recommended in the report, he will select men whose views are sufficiently advanced to enable them to give some fair return for the "liberal compensation" recommended.

DEATH BY ELECTRICITY.

The number of fatal accidents from electric light wires is exciting increased attention, especially in New York. During the past week, within three days of each other, two men have thus been killed in that city, under the most tragic circumstances. The first was an employé of the Manhattan Electric Light Company, and was one of a gang of five linemen who were sent to remedy some trouble in the circuit on Grand Street, near Centre. While working up a pole he came in contact with a live wire, which caused his instant death, and his body fell to the street below.

The second victim was a lineman of the Western Union Telegraph Company, who was at work on a tall pole at the corner of Chambers and Centre Streets. His tragic death is thus described by an eye-witness: "He was astride of the fourth cross-bar from the bottom, and had one foot resting on the next cross-bar beneath, and was apparently in the act of reaching out for a wire, which he intended to cut, when he was suddenly seen to shiver and tremble as though he had received a violent shock. He put out his right hand and seized a wire, as if to steady himself, and immediately there was a flash of flame under his hand. Then bright sparks and tongues of blue flame played all about his hand, and a small cloud of smoke curled up into the air. His right hand next slipped from the wire, and he fell forward across a net-work of wires, which caught him across the throat and face and held him suspended some forty feet from the ground. The man appeared to be all on fire.

Blue flames issued from his mouth and nostrils and sparks flew about his feet. Then blood began to drop down from the body on the pole, and a great pool formed on the sidewalk beneath." The lifeless body hung thus suspended for half an hour before it could be removed with safety, and thousands of horrified spectators stood watching the ghastly spectacle.

It is probable that the wires of the United States Illuminating Company, which run through Centre Street, furnished the fatal current. Although there were no electric-light wires on the pole on which the accident occurred, the telegraph wires which the man touched must have been in contact with an electric wire, and death was no doubt caused instantaneously.

On the day after the first of these fatal accidents Mayor Grant had a resolution passed by the Board of Electrical Control, to the effect that notice be given to all companies operating and furnishing electric lights on overhead wires in the city to discontinue the use of all overhead wires, which are not properly insulated until such time as such wires shall be certified by the expert of the Board to be in proper condition; and after the second accident he issued a peremptory order that all dangerous wires should be at once removed. It is now five years since the law requiring the companies to put their wires underground was passed, but comparatively little progress has yet been made in the matter.

There seems to be some doubt whether putting wires in subways may not be attended by dangers quite as serious as any which exist under the present conditions. The truth is, our modern life is attaching itself to untamed forces, in regard to whose possibilities for good or evil much has yet to be learned.

MEDICAL NOTES.

— Mr. John B. Stetson, of Philadelphia, who has organized much charitable work in that city, is building a hospital in connection with the North Fourth Street Union Mission. The hospital is nearly completed, and is of brick and "seven stories high."

— The price of quinine has lately risen in London to fifteen and one-half pence per ounce. Three months ago it was eleven pence. Dealers complain that there is no profit in the trade, remembering the time when it brought thirteen shillings.

— The school for the training of nurses, connected with the Johns Hopkins Hospital, has just opened under the direction of Miss Hampton, formerly of Chicago, who received her training in the nurse schools of Paris and Berlin. She has two trained nurses as assistants. The nurses' home is one of the largest and handsomest of the block of hospital buildings. With the opening of this school the great hospital will be in full operation, with Dr. William Osler as chief physician, and an efficient corps of assistants. President Gilman, in a statement to the trustees of both institutions, says that properly to establish in working condition the proposed medical branch of the university an endowment of $500,000 is needed.

— The first annual meeting of the Medical Library Association of Chicago, was held October 4th for the election of officers and the adoption of by-laws, etc. The following officers were elected at the meeting last night: *President*, N. S. Davis, Sr.; *Vice-President*, E. W. Lee; *Secretary*, Bayard Holmes; *Treasurer*, Ephriam Hughes. The association has already secured a membership of 75, and the executive board expects to increase it to 300. Each member pays a $100 membership fee and annual dues to the amount of $10. From this it is expected to derive a fund of $30,000, and an annual income from dues and membership fees of $5,000. As soon as practicable a building site will be purchased and a fireproof building erected. The association has already obtained about 2,500 bound volumes and pamphlets, which will be increased as rapidly as possible by purchase and donations.

— The Health Department of the City of New York has just published the mortality statistics for the year 1888, — the first publication of the sort it has made for some years.

There were 40,175 deaths in the city in that year, which made a death-rate of 26.33 per 1,000. The most fatal disease was phthisis, which had 5,260 victims. Less than half of these were natives of this country, 2,809 being foreign born. Next to phthisis as the great destroyer of human life in the city is pneumonia, which killed 4,288. This was more fatal to natives than to foreigners — a fact accounted for by its fatality in very early life, for over nine hundred of its victims were under one year old. In fact, it is in the city one of the serious maladies of child life, for 1,828 of the victims were under five years of age. In more than half of all the deaths in the city the victims were children, and 17,358 of these were very small children. Vehicles in the street killed 100 persons.

One notable fact in this statement of the causes of death appears in the record of two causes particularly fatal to children — cholera infantum and the diarrhœa of young children killed 3,215, or more between them than any malady, excepting only pneumonia and phthisis — and the figures are apparently against the endurance of native children. From cholera infantum there died 1,550 natives against 28 foreigners, and from diarrhœa 1,423 natives against 214 foreigners.

BOSTON AND NEW ENGLAND.

— It is stated by Connecticut papers that a young woman of Bridgeport, a domestic, who swallowed, or thought she swallowed, a plate of false teeth, was subjected to the operation of gastrotomy without finding the teeth. She still complained of agonizing pain and was sent to a hospital in New York where (the doctors having been put in possession of all the facts), a second gastrotomy was performed, and on her recovery from ether a set of teeth prepared for the occasion was shown her, and she at once recovered from all pain and discomfort.

— At the first regular meeting of the Society of Arts, held at the Institute of Technology, October 10, the paper of the evening was upon "Biological or Chemical Water Analysis," by Prof. W. T. Sedgwick of the Institute. He analyzed different waters, claiming that one-third of a teaspoonful of Cochituate water, tested by the gelatine process, contains sixty to one-hundred bacteria, and yet is as pure as the average water. The State Board of Health was highly commended for its practical system of analyzing water. After an interesting exhibition of filtered waters and vegetable deposits through sand, the meeting was adjourned.

— "Dr." Henry Freeland Bradbury, was indicted by a grand jury, and brought before Judge Colt, of the United States Circuit Court at Concord, N. H., on October 9th, for using the mails for fraudulent purposes, and for the use of a fictitious name, for the purpose of aiding or abetting fraud. He is the man who figured as the proprietor of the bogus colleges mentioned in this JOURNAL on October 3d. He replied in answer to the question, "What is your plea?" "I do not wish to contend against the United States." A fine of $250 was imposed on the first indictment, and $100 on the second.

— In connection with the exposure of the "Vermont University," Prof. Narcisse Cyr, of Boston, related to a *Herald* reporter, that the *Christian World* of London, published a statement during the past summer to the effect that the degree of LL.D., had been conferred upon a clergyman of Bradford, England, by the "Bellevue University of Boston." The "Bellevue," it will be remembered, was the "university" which sold medical diplomas, and the exposure of its fraudulent doings was followed by an act of the Massachusetts Legislature, which made the sale of medical diplomas a crime.

NEW YORK.

THE DECISION IN THE KEMMLER CASE.

— In the Kemmler case, which, it will be remembered, was a *habeas corpus* case to test the constitutionality of the new electrical execution law, County Judge Day, of Auburn, has filed his decision, to the effect that the law is constitutional and that the prisoner Kemmler be remanded to the custody of the warden of the state prison at Auburn for execution. In the course of his opinion the judge says:

"The question of the constitutionality of this law is of importance, for, apart from any other consideration, should it ultimately be held unconstitutional, not only may the condemned possibly escape from adjudicated guilt, but all other persons committing capital crimes since the beginning of the current year may likewise go unpunished, inasmuch as it is expressly provided that after it takes effect a crime punishable by death must be punished according to its provisions and not otherwise, and it is clear that any penal act hereafter passed to apply to these cases would necessarily and justly be held void as *post facto*. . . . The Constitution of the United States and that of the State of New York, in language almost identical, provides against cruel and inhuman punishment. Section 505 of the Code of Criminal Procedure, in force prior to the inactment of 1888, provided that the punishment of death should in every case be inflicted by hanging. It is this attempted change in the mode of inflicting the death penalty that provokes the present controversy. There seems to be an element of cruelty inseparable from any taking of human life as punishment for crime, but it is clearly not against this that the constitutional prohibition is directed. The common law rule in this State when applied was adopted, and until the act of 1888 took effect, no question was made as to the legality of death by hanging. That statute has changed the means whereby to produce death. And can it be said that in this case it has been plainly and beyond doubt established that electricity as a death-dealing agent is likely to prove less quick and sure in operation than the rope? I believe not. . . . The questions are whether the prisoner has overcome the presumption that the statute of 1888 in regard to the infliction of the death penalty provides a cruel and unusual, and therefore unconstitutional, punishment and that a force of electricity sufficient to kill any human subject with celerty and certainity, when scientifically applied, cannot be generated. In my judgment, these questions must be answered negatively. The most that can justly be said in his favor is that there is diversity of opinion on the principal question. Before this statute can rightly be abrogated there should be judicial knowledge that the punishment therein provided is cruel and unusual. There is no such knowledge, and his contention falls."

The case is now to be taken to the Court of Appeals, and an early decision on it is desired by the Attorney-General, for the reason that there are about a dozen persons confined in jails in different parts of the State awaiting trial for murder, and the authorities do not deem it advisable to try them until it has been passed on by the higher court.

TWO DEATHS AT THEATRES.

— During the past week two persons have died of disease of the heart during performances at theatres. The first was an esteemed actor, the second was a spectator, a gentleman from out of town.

DEATHS AMONG STOKERS ON ATLANTIC LINERS.

— In regard to the dangers to life and health to which the stokers on the fast Atlantic steamers are exposed, one of the daily papers makes the following forcible and just remarks: "The collapse of five of the stokers on board the *Teutonic* is a striking illustration of the cost at which the high speed of the Trans-Atlantic races is maintained. It is explained that the men who succumbed were not as strong as firemen commonly are, and it is evident that they were not so strong as the firemen who did not succumb. Nevertheless, it is only by trying that a man can ascertain whether he can stand the ordeal of four hours' work in such a

furnace as the fire-room of a great ocean steamer pushed to her utmost speed. It is possible that considerable improvements may be made in the ventilation of fire-rooms, though it is very difficult."

CONFERENCE OF INSANE ASYLUM SUPERINTENDENTS AND MANAGERS.

— A conference of the superintendents and managers of asylums for the insane in the State of New York, was held at Buffalo, October 9th. Dr. John D. Hill. President of the Board of Managers of the Buffalo Asylum, presided, and a permanent organization was effected. It was agreed to hold an annual convention, and that the next one should be at Binghamton, on the third Wednesday in September, 1890. Papers were read by Dr. J. B. Andrews, Superintendent of the Buffalo Asylum, Dr. P. M. Wise, of the Willard Asylum, and others.

Miscellany.

THE PERKINS INSTITUTION FOR THE BLIND.

THE Annual Meeting of the corporation of the Perkins Institution and Massachusetts School for the Blind was held at the institution in South Boston, October 10th. Dr. Peabody occupied the chair, and John A. Bennett, the acting director, was the secretary. The first business before the meeting was the 58th annual report of the trustees.

The total number of blind persons in the asylum, September 30, 1889, was 226, against 214 last year and 200 the year before. Of these 173 belong to the school proper, 30 to the kindergarten for the blind at Jamaica Plain, and 20 to the workshop for adults.

The health record of this institution makes a better showing than it did last year. The report speaks especially of the death of Laura Bridgman, May 24th. A history of her education and a tribute from Mrs. Julia Ward Howe are also appended.

Michael Anagnos, after twenty-one years' service as director and secretary of the board, has obtained leave of absence for a year. During his absence in Europe John A. Bennett is the acting secretary.

The report of the treasurer was read and accepted. The amount of cash on hand October 1, 1888, was $37,306.52: receipts from all sources during the year, $203,423.38; total $240,729.90; expenditures and investments, $177,833.11; balance on hand $62,896.79.

A part of the permanent funds have been invested in real estate on Purchase Street and in South Boston, and a granite building at the corner of Congress and Matthews Streets is owned by the institution. A bequest of $5,000 from the late Moses Hunt of Charlestown, who had repeatedly contributed to the printing fund, was read.

The officers elected were as follows: *President*, Samuel Eliot; *Vice-President*, John Cummings; *Treasurer*, Edward Jackson; *Secretary*, M. Anagnos; *Trustees*, William Endicott, Jr., Edward N. Perkins, Joseph B. Glover, Leverett Saltonstall, Dr. J. Theodore Heard, S. Lothrop Thorndike, Andrew P. Peabody, D.D., George W. Wales.

It was voted that the trustees be authorized to petition the General Court for permission to hold additional real and personal estate for its corporate purposes, including the kindergarten.

STATISTICS OF THE BOSTON DISPENSARY FOR THE YEAR 1889.

THE statistics of this institution for the year ending September 30, 1889, are as follows:

The number of new patients treated at the central office is 21,650, classified as follows:

Medical Department. — Men, 3,048; women, 5,320; children, 3,166; total, 11,534.

Surgical Department. — Men, 1,692; women, 908; children, 704; total, 3,304.

Skin Department. — Men, 567; women, 454; children, 285; total, 1,306.

Department for Diseases of the Nervous System. — Men, 550; women, 341; children, 93; total, 984.

Department for Diseases of the Throat and Nose. — Men, 680; women, 766; children, 537; total, 1,883.

Department for Diseases of Women. — Women, 699; total, 699.

Department for Diseases of the Eye. — Men, 276; women, 305; children, 327; total, 908.

Department for Diseases of the Ear. — Men, 148; women, 176; children, 195; total, 519.

Department for Diseases of the Genito-Urinary System. — Men, 988; women, 15; total, 1,003.

Department for Diseases of the Rectum. — Men, 103; women, 45; children, 4; total, 152.

Orthopedic Department. — Men, 34; women, 33; children, 98; total, 165.

Dental Department. — Men, 232; women, 311; children, 581; total, 1,093.

The number of visits made by patients, old and new, at the central office is 52,152. The number of patients treated in the Districts is 14,238 (including 374 cases of midwifery), classified as follows: Men, 2,258; women, 5,231; children, 6,749; total, 14,238. The results of treatment in the Districts are as follows:

Discharged, cured or relieved	13,078
Removed to Hospitals	807
Died	330
Remaining under treatment	63
	14,278
Under treatment at last annual report	40
	14,318
The number of patients treated at the Central Office and in the Districts	35,888
The number of cases of midwifery attended during the year	374
The number of cases of midwifery attended since July, 1856	5,717
Whole number of patients since October, 1796	1,033,415
Whole number of patients since July, 1856	914,612
Average daily attendance at Central Office	162
Largest number present any one day, August 19	322
Smallest number present any one day, November 26	52
Number of recipes put up during the year	56,336
Number of house recipes	43,739
Number of district recipes	12,597
Largest number of recipes put up any one day, March 11	340

Smallest number of recipes put up any one day, November 26	69
Number of paid recipes	51,255
Number of free recipes	5,081
Number of paid dental patients	1,029
Number of free dental patients	64

The list of medical officers is as follows:

Surgeons: Drs. J. Foster Bush, George H. Monks, Edward O. Otis, William M. Conant. Physicians: Drs. Robert Disbrow, John Dixwell, Thomas M. Rotch, Claudius M. Jones, Harold Williams, George M. Garland, Edward M. Buckingham, Vincent Y. Bowditch, William C. Emerson, Robert B. Dixon, Russell Sturgis, Frederic M. Briggs, Winfred B. Bancroft, William F. Temple, George E. Richards, Henry Jackson.

Skin Department. — Drs. Francis B. Greenough, Abner Post.

Department for Diseases of the Nervous System. — Drs. William N. Bullard, John A. Jeffries, Elliot G. Brackett.

Department for Diseases of the Throat and Nose. — Drs. Thomas A. DeBlois, John W. Farlow, Edward W. Warren, J. Payson Clark.

Department for Diseases of Women. — Drs. Francis H. Davenport, John W. Elliot, John B. Swift, Rufus A. Kingman.

Department for Diseases of the Eye. — Drs. William D. Hall, Edwin E. Jack.

Department for Diseases of the Ear. — Drs. George A. Leland, Henry L. Morse, William S. Bryant.

Diseases of the Genito-Urinary System. — Drs. George H. Tilden, Francis S. Watson, Hayward W. Cushing, Gardner W. Allen.

Department for Diseases of the Rectum. — Drs. Walter J. Otis, William D. Hodges.

Obstetric Department. — Dr. Charles M. Green.

Orthopedic Department. — Dr. Royal Whitman.

Pathologist. — Dr. Edward M. Greene.

Dentist. — Joseph E. Waitt, D.M.D.

District Physicians. — Drs. Willis B. McMichael, George A. Sargent, Henry C. Baldwin, George G. Sears, Silas H. Ayer, George Haven, Samuel Breck, Algernon Coolidge, Jr., William S. Boardman, Frederick W. Stuart.

Apothecary: Frederick H. Dudley. Assistant Apothecary, Joseph S. Lang.

WILLIAM H. H. HASTINGS, *Supt.*

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 5, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	605	232	18.53	18.19	8.84	2 38	3.91
Philadelphia	1,040,245	330	102	9 90	14.40	2.40	4 20	1.50
Chicago	830,000	356	169	26.60	9.24	10.36	2.52	12.60
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	131	56	16.72	15.96	8.36	3.04	2.28
St. Louis	450,000	135	57	19.24	6.66	3.70	5.92	7.40
Boston	413,567	189	65	17.49	15.90	4.77	4.77	6.36
New Orleans	250,000	102	21	15.60	13.72	5.88	1.96	2.94
Cincinnati	225,000	102	—	23.46	8.82	1.96	.98	22.54
Washington	225,000	95	32	22.05	11.55	5.25	6.30	7.35
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	—	—	—	—	—	—	—
Charleston	60,145	17	8	35.28	17.64	5.88	11.76	11.76
Portland	40,000	36	14	11.11	13.90	5.56	2.78	—
Worcester	78,292	14	6	21.42	14.28	—	7.14	14 28
Lowell	71,518	29	8	48.30	11.35	17.25	17.25	6.90
Cambridge	65,552	42	25	47.60	7.14	33.33	2.38	9.52
Fall River	62,647	31	19	25.84	9.69	16.15	3.23	3.23
Lynn	53,334	47	19	27 69	8.52	17.04	8.52	—
Springfield	40,731	19	—	10.52	26.30	5.26	—	—
Lawrence	40,619	10	1	—	40.00	—	—	—
New Bedford	37,253	34	14	35.28	5.88	8.82	—	26.46
Holyoke	35,872	7	5	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	13	4	30.76	—	—	7.69	7.69
Brockton	28,813	9	3	22.22	—	11.11		11.11
Chelsea	28,167	—	—	—	—	—	—	—
Haverhill	26,058	8	3	25.00	12.50	12.50	—	—
Taunton	25,170	—	—	—	—	—	—	—
Gloucester	24,263	11	5	—	—	—	—	—
Newton	21,553	—	—	—	—	—	—	—
Malden	19,774	4	2	—	25.00	—	—	—
Fitchburg	17,534	5	4	40.00	20.00	40.00	—	—
Waltham	17,332	5	4	20.00	—	—	20.00	—
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	9	4	11.11	—	11.11	—	—
Quincy	13,728	3	2	33.33	—	—	33.33	—

Deaths reported 2,398: under five years of age 881; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 480, consumption 320, acute lung diseases 164, diarrhœal diseases 179, diphtheria and croup 154, typhoid fever 85, malarial fever 18, whooping-cough 15, cerebro-spinal meningitis 14, scarlet fever 12, measles 3.

From malarial fevers, New Orleans 9, New York 5, Baltimore 2, Philadelphia and Charleston 1 each From whooping-cough, New York 6, Philadelphia and Chicago 2 each. Boston, Nashville, Lowell, Fall River and Lynn 1 each. From cerebro-spinal meningitis, Washington 3, Boston, Worcester, and Somerville 2 each. New York, Philadelphia, Chicago, Baltimore and Cincinnati 1 each. From measles, New York and Philadelphia 1.

The meteorological record for the week ending Oct. 5, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending Saturday, Oct. 5, 1889.	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.		Velocity of Wind.		State of Weather.[1]		Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...29	30.22	52.0	61.0	43.0	66	51	58.0	N.W.	W.	9	2	C.	C.		.0
Monday,..30	30.09	62.0	72.0	51.0	89	82	76.0	S.W.	S.	14	15	O.	O.		.0
Tuesday,.. 1	29.64	64 0	70.0	59.0	87	87	87.0	S.	S.W.	21	12	O.	C.	4.45	.31
Wednes.. 2	29.80	58 0	68.0	51.0	72	65	68.0	W.	N.W.	16	15	C	C.		.0
Thursday, 3	30.08	56.0	61.0	46.0	64	72	68.0	N.W.	S.	13	8	C.	O.		.0
Friday,.... 4	30.08	60.0	68.0	51.0	82	62	72.0	S.W.	N.W.	8	13	C.	O.	1.00	.02
Saturday,. 5	30.14	46.0	51.	40.9	71	80	76.0	N.	S.E.	10	8	O.	O.		.0
Mean for Week.	30.01		64.0	48.			73.0							5.45	.33

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 5, 1889, TO OCTOBER 11, 1889.

MUNDAY, BENJAMIN, captain and assistant surgeon U. S. Army. Granted four months leave of absence. Par. 2, S. O. No. 233, A. G. O., October 7, 1889.

KENDALL, WILLIAM P., assistant surgeon U. S. Army. Granted leave of absence for one month. S. O. 93, Department of the Platte, October 2, 1889.

TREMAINE, WM S., surgeon U. S. Army. Relieved from temporary duty at Fort Leavenworth, Kansas, and will return to his home (Buffalo, N. Y.). Par. 13, S. O. No. 230, A. G. O., October 3, 1889.

POPE, BENJAMIN F., surgeon U. S Army. Relieved from duty at Fort Clark, Texas, and will report for duty to commanding officer, Whipple Barracks, Arizona Ty. Par. 11, S. O. No. 230, A. G. O., October 3, 1889.

BILLINGS, JOHN S., surgeon U. S. Army. Detailed as delegate to represent the Medical Department of the Army at the annual meeting of the American Public Health Association, to be held at Brooklyn, N. Y., October 22, 1889. Par. 10, S. O. No. 230, A. G. O., October 3, 1889.

SMITH, A. K., assistant colonel and surgeon U. S. Army. Leave of absence extended twenty-one days, on surgeon's certificate of disability. Par. 7, S. O. 234, A. G. O., October 8, 1889.

CARTER, EDWARD C., captain and assistant surgeon U. S. Army. Granted leave of absence for twenty days. Par. 6, S. O. 234, A. G. O., October 8, 1889.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING OCTOBER 12, 1889.

BRIGHT, G. A., surgeon. Detached from temporary duty at the Naval Academy and placed on waiting orders.

BOSTON CITY HOSPITAL. CANDIDATES FOR POSITIONS AS HOUSE-OFFICERS.

Attention is called to the announcement of the Boston City Hospital of its semi-annual examination, November 7th, of candidates for appointment to the positions of house-officers for the term of service beginning on the first Monday of January next. Last year one of these appointments went to a candidate coming up from the Bowdoin Medical School.

SOCIETY NOTICES.

AMERICAN ACADEMY OF MEDICINE.— The American Academy of Medicine is endeavoring to make as complete a list as possible of the Alumni of Literary Colleges, in the United States and Canada, who have received the degree of M D. All recipients of both degrees, literary and medical, are requested to forward their names, at once, to Dr. R. J. Dunglison, Secretary, 814 N. 16th Street, Philadelphia, Pa.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.— A Meeting will be held in Nashville, Tenn., November 12, 13, and 14, 1889. The preliminary programme has been issued, and members of the Medical Profession are cordially invited to attend.

HUNTER MCGUIRE, M.D., *President*, Richmond, Va.
W. E. B. DAVIS, M.D., *Secretary*, Birmingham, Ala.

OBITUARY. CHARLES HADDOCK, M D.

Dr. Charles Haddock, of Beverly, Mass., died October 10th. He was stricken with apoplexy eighteen days before while driving home from a visit to a patient; and had remained in a semi-conscious state since then. He was born in Hanover, N. H., sixty-seven years ago. His father was for many years a professor at Dartmouth College. Dr. Haddock was educated in that college, and, after studying medicine, began its practice in Claremont, N. H. In 1847, he went to Beverly, where he settled and had practiced ever since. Dr. Haddock, in a very few years after settling in Beverly acquired a large practice, not only in that town, but also in Manchester, Salem, Peabody, Wenham and other towns of Essex County. He was surgeon of the old eighth Massachusetts regiment during the Civil War, and was in charge of the hospital at Newbern, N. C. Dr. Haddock was appointed medical examiner for the district in which he lived. He was also recently appointed examining surgeon for pensions. He was a member of the Massachusetts Medical Society, and of numerous social and civic organizations He leaves a widow and one son, Dr. Charles W. Haddock, a practicing physician of Beverly.

OBITUARY. WILLIAM H. CRAIG, M.D.

Dr William H. Craig died October 4th, at his residence in Albany, N. Y. He was born November 2, 1825, in Lisbon, St. Lawrence County. His father and mother were of Scotch ancestry. He attended the Albany Medical College, and graduated in 1852. He was associated with Dr. Martin until 1854. In 1862, he entered the army as surgeon of the 177th regiment of the New York State Volunteers, and went into service with that command in the department of the Gulf and Mississippi River. He was at Port Hudson, and after that the regiment came home, and was mustered out of service. Soon after, he was made examining surgeon of the pension bureau in Albany, where he served three or four years, and was then made president of the board of examiners. In 1870, he was elected president of the Albany County Medical Society. In 1877, he was nominated postmaster, near the close of President Grant's second term. His commission was signed by President Hayes, and he entered upon his duties March 12, 1878. President Garfield reappointed him May 4, 1881, and he served until his successor was appointed. He was a member of the State Medical Society, a curator of the Albany Medical College, a member of Post 63, G. A. R, and of Fort Orange Club.

BOOKS AND PAMPHLETS RECEIVED.

The Cerebral Palsies of Children: a Clinical Study from the Infirmary for Nervous Diseases. Philadelphia. By Wm. Osler, M.D, F.R.C P., London, Professor of Clinical Medicine at the University of Pennsylvania, etc. Philadelphia: P. Blakiston Son & Co. 1889.

A Text-book of Physiology. By M. Foster, M.A., M D., LL D., F.R.S., etc. With Illustrations. Fifth edition, largely revised. Part II, comprising Book II. The Tissues of Clinical Action with their Respective Mechanisms. Nutrition. London and New York: Macmillan & Co. 1889.

Chemistry: Journal Medical and Pharmaceutical, including the chemistry of the U. S. Pharmacopœia. A manual of the general principles of the science and their applications in medicine and pharmacy. By John Attfield, F.R.S., etc., 12th edition. Philadelphia: Lea Brothers & Co. 1889.

Original Articles.

SOME CAUSES OF PREVENTABLE BLINDNESS.[1]

BY HASKET DERBY, M.D.

ACCORDING to the figures given by Dr. Lucien Howe,[2] blindness in the United States increases at a rate out of proportion to that of the growth of the population. Between 1870 and 1880 the latter had increased 30.09%, and the number of blind 140.78%. The community is supposed to have been, in 1880, at a charge of between sixteen and seventeen millions of dollars for the support of these individuals.

A certain proportion of this loss of sight is, of course, preventable. Being desirous of estimating the relative number of such cases in our own community, I recently applied for permission to examine the inmates of the Perkins Institution for the Blind in South Boston. Mr. Anagnos very kindly placed at my disposition every possible facility, both at South Boston and at the Kindergarten in Jamaica Plain. I was thus enabled to take notes of 183 cases, all but one of which I personally examined. The single exception was absent at the time of my visit, but his recorded history left no doubt as to the cause of his loss of sight.

Following the classification of Magnus, I have divided these cases into four classes, and subdivided them as follows:

I. CONGENITAL BLINDNESS.		
Mikrophthalmus	4	
Megalophthalmus	1	
Cataract	20	
Choroiditis	1	
Atrophy of optic nerves	9	
Anomalies of cornea	3	38
II. BLINDNESS IN CONSEQUENCE OF IDIOPATHIC DISEASES OF EYE.		
Blenorrhœa neonatorum	34	
Trachoma	4	
Blenorrhœa	5	
Disease of cornea	1	
Irido-choroiditis and cyclitis	5	
Choroiditis	1	
Separation of retina	1	
Idiopathic optic nerve atrophy	4	55
III. BLINDNESS OF TRAUMATIC ORIGIN.		
Direct injury of the eyes	9	
Unsuccessful operations	3	
Injuries of the head	16	
Traumatic sympathetic ophthalmia	12	40
IV. BLINDNESS ATTRIBUTABLE TO GENERAL DISEASE.		
Syphilis	1	
Brain (atrophy of optic nerves)	27	
Typhoid	1	
Measles	5	
Scarlet fever	16	50
		183

It is with the figures in the second class that we are more immediately concerned, and especially with those of blindness dependent on the ophthalmia of new-born children. There were 34 such cases out of 183, being a percentage of about 18.6. This is, however, a smaller proportion than has been obtained by other observers, and can only be accounted for by the limited number of individuals I was able to examine. At the Sheffield School for the Blind, Mr. Snell found 38.3% blind from this cause, and observers in general estimate that some 30% of all blindness is due to this disease.

Even the examination at South Boston reveals the fact that at least one in every five of the inmates of the institution need not necessarily have ever come there. For it is an established fact that the ophthalmia of new-born children can, with few exceptions, be successfully prevented when there is reason to apprehend its occurrence. It is also not an exaggeration to claim that hardly a disease of the eye yields with more certainty to appropriate treatment. As the experience gathered in various countries demonstrates that this affection ranks easily first among the causes of blindness; and as our own is, to my knowledge, the only community in which any difference of opinion as to its proper treatment has prevailed; I have thought it desirable to allude to the approved practice of the present day.

As regards prevention, those connected with lying-in hospitals speak with most authority. Modern observers are united in the belief that efforts at disinfection should mainly be directed to the eyes of the child, which are most apt to receive the poisonous matter after birth. Such being the case, is strict cleanliness alone sufficient, or should an active disinfectant in addition be employed?

This is no longer an open question. Experiments carried on by different observers, controlling ample material, have demonstrated, beyond a doubt, that the purulent infection of the eyes of new-born children can be reduced to a minimum by the use of a disinfectant, and that the most efficacious disinfectant is the nitrate of silver. Simple cleansing of the eyes with water was found by Bischoff to reduce the number of cases only one-half. Credé, the original proposer of the use of nitrate of silver, had, before the introduction of prophylaxis, 314 cases among 2,897 children. 10.8%. After beginning to use the 2% solution of nitrate of silver he had but from one to two cases in 1,160 children, being 0.1 to 0.2%.

Other agents have been tried, among which a 1% solution of carbolic acid gives the best results. Königstein's figures are very striking and particularly valuable, as they were all conducted at the same clinic and with the same attendants. In 1,092 cases, in which no treatment was used, his percentage of ophthalmia neonatorum was 4.76; in 1,541 treated with a 1% solution of carbolic acid, 1.42%; in 1,250 treated with a 2% solution of arg. nit., 0.72%.

In fine, the 2% solution of nitrate of silver gives the surest results, is devoid of danger, causes but trifling irritation, and deserves general use. It is to be applied to each eye as soon as the child has been washed, one or two drops being sufficient. It is not necessary to evert the lids, it having been found that the cornea is not injured if the application be made directly to the eyeball. Its application should be the rule in all lying-in hospitals, as well as in all cases occurring elsewhere in which, owing to the previous condition of the mother, infection is to be feared.

The *Wiener medizinische Zeitung*, of February 5, 1889, contains an interesting account of the trial of a midwife, which took place the week before. The individual in question was charged with the illegal practice of medicine, in that she had applied to the eyes of a new-born infant a two per cent. solution of nitrate of silver, as a preventative of ophthalmia neonatorum. Condemned to three days imprisonment she had ap-

[1] Read before the Boston Society for Medical Observation, April 1, 1889.

[2] Transactions Am. Ophth. Society, vol. iv, p. 532.

pealed, and it was pleaded in extenuation of her conduct that she had learned this method at the medical school, and that experience had proved it to exert a valuable prophylactic effect. This argument prevailed and the magistrate acquitted her. It appears that the Austrian Minister of the Interior had, several years previous, decreed that this method of Credé should be practised at all public lying-in institutions; and had, moreover, advised its use by physicians in general. The question that now arose was as to whether midwives should be allowed to adopt this method as a matter of routine, without special orders from a physician, and the feeling of the writer in the *Wiener Zeitung* was strongly in favor of their so doing.

Infection after birth may occur through contact with the lochial secretion, or any other want of cleanliness; particularly in hospitals through the employment of sponges, etc., that have been used with other children. There is no necessity for here dwelling on the symptoms of the disease, its rapid course when untreated, the danger to be apprehended from destruction of the cornea, either in part or wholly, and the almost certain results of appropriate and timely treatment. It is with the form of this last that we are chiefly concerned, and a proper knowledge of the subject is of the utmost importance, not so much to the specialist as to the general practitioner into whose hands the vast majority of these cases fall. Ophthalmia neonatorum, at the Boston Eye Infirmary, forms but .32% of all the diseases there treated, having occurred in 19 years but 386 times among 118,344 cases of ophthalmic disease. As we know the disease to be not uncommon among the poorer classes, the inference is that it is treated, if at all, by the regular medical attendant.

Scrupulous cleanliness, the frequent removal of the discharge and the use of mild astringents, may be by no means sufficient. In the present state of our knowledge it is not presumptuous to assert that a case of this disease, terminating in a manner fatal to sight, and treated without topical applications of nitrate of silver, would be regarded as having been culpably neglected. This is the remedy that acts with the most certainty as a specific against the gonococcus. It is not only antiseptic in its action, but works both superficially and deeply. As has been justly observed "it causes a sloughing of the upper layer of epithelial cells; if then the micro-organisms have already penetrated there they are followed up and destroyed by the silver solution. Hence the action of the silver solution is so much more certain than that of the carbolic acid mixture."[3] It is to the neglect of the timely use of nitrate of silver, and the failure to regularly inspect the cornea and provide in time against its destructive ulceration, that the blindness, occurring as a result of this disease, is generally due.

In this connection the experiments[4] of Weeks may be quoted. He tested the antiseptic value of the topical remedies employed in ophthalmology, noting their effects on the staphylococcus pyogenes, the most prevalent of pyogenic germs. It was found that Panas' solution (biniodide of mercury, 1; absolute alcohol, 400; water, 20,000) destroyed the staphylococcus in exposures of from one to three days. I cite this first because this solution has been so largely used here. Carbolic acid it was found could not be used in solutions of sufficient strength to be germicidal. Boric acid had no germicidal effect whatever. Iodoform not only did not destroy the germ, but, on being exposed to the air for several days, became itself the breeding ground of a bacillus. Corrosive sublimate, 1 to 10,000, destroyed vitality in five minutes, 1 to 5,000 in three minutes. A 1% solution of nitrate of silver, however, acted in twelve seconds, 2% in eight seconds, and 10% in four seconds.

So much of the principal factor that operates in causing preventable blindness. Of that from trachoma it is less necessary to speak, as that disease appears to be greatly decreasing in this community. The greater care used in the regulation of emigration, the gradual improvement in the housing and sanitary surroundings of the poor, and the discovery of jequirity as a remedy are all working such a change for the better that one is almost justified in looking forward to a time when "granular lids" will be a tradition of the past.

There is but one other cause of preventable blindness on which I wish briefly to dwell, traumatic sympathetic ophthalmia; of which I found 12 cases at the Blind Asylum, something over 6% of all affections investigated. With young children the occasion for the occurrence of this disease is most frequently the wounding the other eye by forks, scissors and knives, carelessly left in their way. As it can be guarded against by the timely removal of the injured eye, it is certainly desirable that the indications for the performance of this operation should be familiar to the profession. They may be condensed as follows:

The injured eye should be removed when:

(*a*) It contains a foreign body that cannot be extracted without destroying the eye.

(*b*) The nature of the injury is such that sight is unlikely to return, and there is danger of sympathetic disturbance.

(*c*) There is tenderness on pressure, vision having been destroyed.

There are other rules laid down, but these are the most plain and practical. Had they been understood and followed in the twelve cases seen by me, it is safe to infer that no one of these individuals would have become an inmate of the asylum.

To sum up the results of my investigation, I found 34 cases of ophthalmia neonatorum, 4 of trachoma and 12 of the results of sympathetic ophthalmia; together, 50 instances of preventable blindness; in all, 27% of the inmates of the South Boston Asylum who need never have gone there had they received suitable care or enlightened treatment at the proper time. To diminish such a percentage in the future, the more careful medical education of the present day will not alone suffice. Those who propose to follow the profession of nursing must also be properly instructed, and some degree of knowledge on these subjects be diffused in the community.

[3] Fuchs, Die Ursachen und die Verhuetung der Blindheit, s.s. 132-3.
[4] Knapp's Archives of Ophthalmology, vol. 16, no. 4, p. 375, et seq.

— The *Western Medical Reporter* says: "Two German athletes have arrived in New York whose feats of strength, it is said, will be a revelation to the strong men of this country. One can lift 545 pounds with his middle finger, and can pass a weight of 200 pounds slowly over his head with one hand. The other is credited with being able to force a six-inch nail with his bare hand through a two-inch plank."

A CASE OF PAPILLOMATOUS URETHRITIS.[1]

BY F. M. BRIGGS, M.D.

The patient, male, age twenty-five, unmarried, consulted me in August, 1887, giving this history: He stated that every coitus was followed by a discharge from the urethra. This discharge was purulent and profuse, but was not accompanied by acute inflammatory symptoms. Injections of permanganate of potash always stopped it in a few days; but if left untreated, it went on indefinitely. At one time he had tried leaving it alone, but there being no improvement at the end of three weeks he had returned to injections and it was easily checked in a few days.

There was never any thin, gleety discharge, and he had no trouble while he remained continent.

He had had his first attack of gonorrhœa seven years before, and the condition above described had existed as nearly as he could remember, for about three years. He regarded himself as the possessor of a peculiar "gonorrhœal diathesis," and looked upon each attack as a fresh infection.

His father died of phthisis, but the patient himself was perfectly healthy aside from this trouble. He had a large meatus. Rectal examination showed a normal prostate. I examined for strictures with Otis' olive-pointed bougies but found nothing until No. 30 was reached, which showed a number of obstructions in the anterior urethra. The sensation to the hand was precisely that of urethral strictures. The bulb of the instrument went smoothly for a short distance and became slightly engaged, — passed the obstruction to again go over smooth mucous membrane, and was stopped as before. This was the condition for some four to four-and-one-half inches. I regret, in the light of subsequent events, that I did not make a careful endoscopic examination at that time.

My diagnosis was strictures of large calibre, and I began to dilate. The passage of a sound always caused a good deal of bleeding and made it rather a troublesome case to handle, but I did not look upon the bleeding as of any clinical importance.

The patient discontinued coming after a few visits and I saw no more of him until the following November, when he again came, and wished to go through a thorough course of dilatation. He came regularly for two months. I could then pass a No. 40 sound without difficulty, and told him I had dilated all that I thought necessary. Although there was no discharge, I could not place this to the credit of the sounds; for during treatment he had remained continent, and while continent he had always been free from trouble.

The treatment by sounds was not a success. About ten days later he came to me again as badly off as ever, having had intercourse two days before — in spite of the urgent advice I had given him to abstain from all indulgence and to lead a regular life for three months at the shortest.

I thought it useless to attempt anything further with sounds, and saw no more of him until the following July, (1888). He then reported that he had been in his usual condition since his last visit in February, but that once or twice the discharge had been streaked with fresh blood. He was sure this blood was in the discharge and not in the urine, nor were there any symptoms pointing to the bladder as its source. I passed a No. 36 olive-pointed bougie. Its withdrawal was followed by bleeding, and upon the upper rounded surface of the bulb of the instrument, I noticed a small gelatinous mass, which a hasty examination under a low power showed to be a branching growth.

A later endoscopic examination showed that the mucous membrane of the urethra for nearly five inches was simply studded with similar growths of various sizes. The larger ones occurred singly, the smaller in groups, and in some places they were clustered together, making a considerable mass and looking like the outside of a raspberry (Fig. 1). They were grayish-white in color, branching, and evidently vascular, for slight pressure with the end of the endoscope caused bleeding. In short they were warty growths or condylomata, and their presence within the urethra accounted satisfactorily for all the symptoms.



Fig. 1.

The growths as they appeared through a No. 34 endoscope.

I found it very difficult to decide upon the best method of removing these growths, and could get but little assistance on the subject from the various authorities on genito-urinary surgery.

Grünfeldt,[2] speaking of urethral *polypi*, advises their removal, through an endoscope, with a snare or with special endoscopic instruments of which he has three, namely, forceps, scissors, and a combined endoscope and guillotine. But the growths which he describes occurs either singly, or, at most there are two or three. His method of treatment would be efficient where a few isolated polypi are to be removed, but is useless where the urethra is the seat of such extensive distribution of growths as is the case in papillomatous urethritis.

In the *Annual of the Universal Medical Sciences* 1888, vol. ii, pp. 212-13, E. L. Keyes gives a brief *résumé* of an article by Oberländer of Dresden, and upon consulting the original[3] I found a most complete description of just such cases as the one in point.

Oberländer writes at length on the subject and goes very thoroughly into all its details. He discards all methods of treatment other than the one which he originated, and which, as I understand it, is as follows: He uses cotton tampons. The cotton is twisted firmly on the ends of tampon holders. Having introduced an endoscope to the seat of the growths, he passes down two tampons one after the other, partially withdraws the endoscope and presses the two tampon holders well against each other. The penis is stretched out, and the tampons, by an up-and-down, slightly twisting motion, ought to catch and pull off the growths. The tampons are withdrawn one after the other, and some papillomata will be found adhering to the cotton. Fresh cotton is re-introduced to the same spot to remove the growths still there, and this is repeated at the various diseased points of the urethra, until as many growths as possible have been removed.

[1] Read before the Boston Society for Medical Observation, April 1, 1889.

[2] Endoscopie der Harnröhre und Blase. pp. 187-192.

[3] Vierteljahresschrift für Dermatologie und Syphilis, 1887, p. 1077, (4 Heft 2 Hälfte.)

One week later he examines again, and during this time many of the growths which were loosened by the tampons but were not removed, will have been carried out by the stream of urine. If any are left, he repeats his operation (which he calls "tampon ecrasement") and, if necessary, does so a third time. In regard to these cotton tampons, I translate his directions for making them as follows:[4] "In order to get a sure result, the tampons must have a definite size, and indeed such, that in the movements among the condylomatous masses they take hold, that is, they can be passed through only with distinct pressure. They ought not to go through too easily or one removes too little; nor should they pass through with too much difficulty, for then one has not room enough in the urethra for two tampons going side by side."

As regards after-treatment he says that if symptoms persist after all the growths are out, they are to be treated on the principles of treatment for chronic urethritis, by sounds or by topical applications.

This is Oberländer's treatment and I decided to adopt it; but if not successful with the method, to scrape the urethra with a small curette.

I operated on the 17th of August, 1888, Dr. G. W. Allen kindly assisting me.

Tampon ecrasement was a total failure in my hands. My experience with it was, that where the tampons were small enough to be freely moved about they had no effect on the warts. When I got them large enough to exert pressure, they were moved with great difficulty; so much so that I was afraid they would "bind" andtear the mucous membrane; and, although I made a number of attempts, I was unable to strike a happy medium.

I, therefore, determined to curette. My fear of this was hæmorrhage. The tendency to bleed upon passing sounds had been so marked, even with the most gentle manipulation, that I was doubtful as to the effect of scraping the urethra over the extent of surface that was necessary. But I could see no other rational method of treating the case, and thought that by scraping over a small surface first, and noting the result, I could decide as to whether further efforts in that direction were advisable or not.

I introduced a small sharp curette through an endoscope and scraped off an isolated growth. It came away easily and with only a trifling bleeding. I curetted farther without trouble of any kind. But I found that although the curette freed the growths from the walls of the urethra, it did not remove them from the canal; they were left behind when the curette was drawn out. Here I found the cotton tampons of great service; for the growths which had been previously detached by the curette, and were lying loose in the urethral canal, adhered to the cotton and were easily drawn out. (One medium-sized absorbent cotton tampon on the end of an ordinary wire tampon-holder is better for the purpose than two small ones.)

I worked in this way over the whole diseased area, going from before backwards, using first a curette and then a tampon, and clearing up about an inch of surface at a time. That is to say, I curetted about an inch of mucous membrane, removed the curette, and passing in a tampon, extracted the growths; then curetted another inch, and extracted with a fresh tampon, and continued this until I had reached the termination of the growths, a point about four and one-half inches from the meatus.

When I had finished, the endoscope showed the mucous membrane to be highly congested, bleeding moderately, with here and there a growth left hanging. I did not try to remove these, but left them, trusting that they would come away in urination; or if they did not, to remove them at a future date. As it proved they did come away with the stream of urine.

It is important to keep the penis well-stretched out while the curette is being used, for if this is not done a loose fold of mucous membrane can easily get caught between the edge of the endoscope and the curette, and a wound of the urethra follow.

This curetting was done very gently, and in the following way: An endoscope was inserted, and (after removing the obturator) was slowly withdrawn until some of the growths were in the field. The curette was then passed in through the endoscope to this point, and held there. The endoscope was partially drawn out leaving the curette among the vegetations. Then, after stretching the penis well out, and compressing it over the endoscope with one hand, with the other the curette was drawn lightly over all sides of the uretha for a short distance. I did not attempt to look through the endoscope while doing this. The mirror was used only in seeing that the curette was placed accurately. To remove each growth or collection of growths separately, by means of a mirror, would be extremely tedious and difficult, and is wholly unnecessary.

The operation was done with cocaine. I found about two drachms of a four per cent. solution sufficient to prevent pain; giving it in divided injections (that is from time to time, as necessary), with a deep urethral syringe. Antisepsis was, of course, carefully attended to, and at the end a thorough irrigation was given with 1 to 5000 corrosive solution. Bleeding, of which I had been afraid, proved trifling and caused no trouble.

The subsequent history was wholly satisfactory. I did not see the patient for a week, when he reported that there had been some oozing of blood for about twelve hours after the operation. The penis was sore for several days, and micturition painful, which was not surprising; but there had been no retention of urine or other accident, and he had kept about his business without inconvenience. A sharp urethritis started up the day following operation, and was still active; but a few injections of permanganate of potash quickly checked the discharge.

Two weeks later (three weeks after operation) I made an examination, and found the urethra wholly cleared up. It was slightly congested in places, but there were no growths and no discharge. The patient spoke particularly of a change in the character of the stream, which was much larger and came more freely than at any time since he could remember.

It is now seven and a half months since I operated, and he reports that he has been completely free from his former trouble, — coitus being no longer followed by a urethritis.

I have not been able to get another look through the endoscope; but, from the fact that for over seven months the symptoms of urethral irritation have completely disappeared (and that, too, for the first time in eight years), I think it can be safely said that the

[4] Vierteljahresschrift für Dermatologie und Syphilis, 1888, p. 1096, (4 Heft 2 Hälfte.)

growths have not recurred, and the case can be fairly regarded as a cure.

To sum up briefly: The symptoms are those of chronic irritation of the urethra. But an accurate diagnosis cannot be made by the symptoms alone. An endoscope must be used and the urethra thoroughly inspected. The prognosis is good; and, for treatment, the writer would recommend, as being both rapid and effective, the removal of the growths through an endoscope with a curette and cotton tampons, in the manner described above. If after-treatment is necessary, injections of permanganate of potash for several weeks. If this is not sufficient, then sounds or topical applications of nitrate of silver.

There has been very little written on the subject, especially as regards treatment, which is certainly an important point. The symptoms are a constant source of annoyance and discomfort, which can be quickly relieved by a safe and simple operative measure. Works on surgery, both general and genito-urinary, have little to say about it, and what they do say consists mainly in stating the fact that papillomata or condylomata sometimes occur within the urethra. Directions for removing them are either not given at all, or are not made sufficiently explicit. Oberländer's admirable article, previously spoken of, is the only one which I have found giving a careful and accurate description of the entire subject.

Dr. J. T. Bowen has very kindly made sections of some of the pieces which were scraped out, and the accompanying drawing which he has made shows the microscopic appearance of a single tuft (Fig. 2).

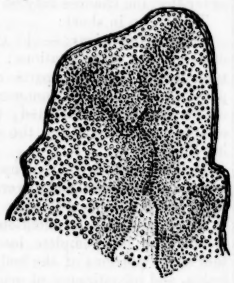


FIG. 2.

I think papillomatous urethritis must be an uncommon condition; but it may be found by a more general use of the endoscope in cases of chronic inflammation of the urethra especially where of long-standing, that in some of these the symptoms are in reality due to the presence of papillomatous growths.

SURGICAL OPERATIONS FOR THE RELIEF OF PRESSURE PARALYSIS IN CARIES OF THE SPINE.[1]

BY DRS. WILLIAM N. BULLARD AND HERBERT L. BURRELL.

THE advances in surgery, which have been so rapid and so extensive within the last few years, have at length reached a point where operations of a serious nature upon the spinal column, involving the removal of portions of several vertebræ and the opening of the spinal canal, may be performed with success, so far as the operation itself is concerned, and it now becomes the duty of the physician to be able to give, so far as is consistent with our present knowledge, an intelligent opinion in regard to the benefit likely to be derived from such operation in any given case, and the risks which are to be encountered apart from those of a purely surgical character.

We wish then to point out as distinctly as possible what cases of spinal caries are, in our opinion, suitable cases for operation, and on what factors we depend to form an opinion in any special case.

The symptoms for which operations on spinal caries have been undertaken are those of compression with or without irritation of the spinal cord, and the direct object of these operations has been the relief of pressure on the spinal cord. This compression is usually produced in caries of the vertebræ either by the collection and accumulation of inflammatory products between the dura mater and the bone and by the thickening of this latter membrane with an increase of fibrous or connective tissue formation, or by the direct pressure of displaced bone. The first cause is by far the most common. In a very large proportion of cases, it is probable that compression once produced does not materially diminish and that the improvement in the symptoms, which so frequently occurs, is due principally to the adaptation of the cord itself to its surroundings; in a smaller number of cases the compression may be more or less acute, and may diminish or disappear spontaneously. These latter cases are usually connected with abscess formation. Apart from the general condition of the patient and the ordinary surgical considerations, there are three elements especially to be weighed in determining the advisability of an operative procedure on the spine. First, the actual condition of the spinal cord; secondly, its prospects of recovery (of function), if not operated upon, under rest and other suitable treatment; thirdly, its prospect of recovery (of function) if the pressure be removed.

ACTUAL CONDITION OF THE CORD.

The amount of injury suffered by the cord depends upon various factors, some more or less easily estimated, others extremely difficult to judge of. The principal ones are (1) the degree of pressure; (2) the time throughout which it has been exerted; (3) the liability of the cord to inflammation or degeneration.

Our means of determining the condition of the cord in general are well-known, and we will only say that the symptoms to be principally relied upon are the loss of motion and of sensation and the condition of the reflexes below the diseased area. It is evident that the greater the loss of motion and sensation below the diseased point, the greater must be the obstruction to, or the destruction of the cord conduction. If the inhibition or destruction of the conduction through the cord were proportional to the amount and duration of the compression, our problem would be much simplified. As it is, however, we have to deal with an indeterminate factor, the spreading of the disease in the cord. It is still a disputed question in what pathological form this extension of the disease ordinarily occurs, whether, as maintained by Strümpell, it is a degenerative process, or whether, as held by Gowers, it is inflammatory. However this may be, there is no doubt that, in addition to the ordinary spreading of the disease in certain cases, a spontaneous myelitis may occur, and the possibility of this must always be borne in mind.

PROSPECT OF RECOVERY WITHOUT AN OPERATION.

The prospect of, at least, a partial recovery is in the

[1] Read before the American Orthopedic Society, September 19, 1889.

large majority of cases, especially in the earlier stage, a very good one. Even in cases of total loss of motion and sensation, recovery, at least partial, may occur. Incontinence of urine and fæces are very serious symptoms (Lauenstein's formula), yet we have seen both disappear after several months duration and the patient become practically well. The duration of the symptoms is a most important element in the prognosis, though even this is not so determining as might at first seem probable. We all know cases in which paralysis has existed for years and which finally commenced to improve and recover motion and sensation. The recuperative power of the spinal cord, at least as regards function, is much greater than would be supposed *à priori*. The cases of caries of the spine are comparatively few, in which, aside from causes dependent on the general health of the patient, it is not possible or even probable that some improvement in the symptoms, directly referable to the cord, will occur, if the active advance of the disease can be checked.

So long as we have reasonable or even moderate chances of recovery without operation, we do not believe it advisable or justifiable, in the present condition of spinal surgery, to perform so serious an operation as resection of the laminæ of the spinal vertebræ. This consideration at once reduces the proportion of these cases, suitable for operation, to a very small one, as we all know how prone these cases are to at least a partial recovery; on the other hand, when spontaneous recovery has become otherwise well nigh hopeless, this procedure offers us a prospect of success which should not be neglected. At present, it seems probable that this prospect is greater in the case of children than of adults.

PROSPECT OF RECOVERY FROM PARAPLEGIA AND OTHER CORD SYMPTOMS BY MEANS OF OPERATIVE REMOVAL OF COMPRESSION.

We have thus far been able to collect only eleven published cases in which an operation for the removal of compression has been performed upon the spinal cord, omitting Abbe's case, which, though counted by White, seems doubtful. (These are Macewen, five; Horsley, Duncan, Lane, Dercum and White, Wright, Thompson, each one.) To these we add our own case, making twelve in all.

Three cases (Macewen's) were successful, four were much benefited, and some of these, notably Duncan's, should probably be classed as successful. One (Wright's) had recurrence of the former symptoms in two months. Four died, one in thirty hours, one in thirty-six hours, one in a week and one in a few months; the two latter of general tuberculosis.

Of these the age is given in only seven. Five were children under fourteen years of age. Two were adult males. Of the children one became well, three were at least much benefited, in one the symptoms recurred. Both the adults died of shock.

The results of these cases are, on the whole, favorable, and we are warranted in looking forward to much better ones as progress is made in surgical technique.

The principal contra-indication, besides the obvious ones existing in the general condition of the patient and his surroundings, is the presence of tuberculosis in some other portion of the body. In such cases the prognosis is necessarily serious, and the operation should not be attempted unless there exists some symptom thought to be due to pressure and immediately threatening life, as in the case of Thompson. Macewen's view that the presence of continued high temperature is of itself a contra-indication, aside from the possibility of its pointing to tubercular disease in other parts of the body, has not been borne out by later cases, notably by that of Lane, where, in spite of high temperature, the operation was successfully performed. The presence of an abscess is a contra-indication to resection if the pus can be evacuated in any other manner.

The occurrence of acute symptoms referable to the cord, other than those due to abscess is not an indication for operation unless they appear to threaten life through compression of the cord. On the other hand, in many cases where acute symptoms occur, we have to deal with processes in the cord which may not be specially aided by the removal of the compression, and where again there is a tendency to partial recovery. Thus a sudden paraplegia or increase of loss of motion or sensation is a contra-indication to immediate operation, though the time may come later when the operation will be desirable.

When, however, in any case the health of the patient is gradually failing, when cystitis is becoming chronic, and when obstinate bed-sores are beginning to form without obvious cause in a case of some standing, operation should be resorted to early in order that the chances may be in our favor.

To sum up in short:

Contra-indications:—(1) General health and general surgical considerations; (2) The presence of tuberculosis in other parts of the body; (3) The presence of an abscess connected with the caries which can be otherwise evacuated; (4) Acute exacerbation of symptoms referable to the cord, and not threatening life.

Indications in favor of an operation are:—(1) General good condition and favorable surroundings; (a) when the disease is gradually and slowly progressing to an unfavorable termination; (b) when the patient has more or less complete loss of motion and sensation in the portions of the body below the level of the lesion, and incontinence of urine and fæces, and where these conditions have lasted for a sufficient length of time to render spontaneous recovery improbable, and not so long as to have produced permanent destruction of all recuperative power in the cord. (2) Where acute symptoms threatening life appear, and where there is reasonable expectation that they may be relieved by the removal of compression.

We now come to the consideration of our own special case.

The patient, a strong butcher, forty-six years old, a native of Ireland, entered the Carney Hospital on the 29th of December, 1888, in the service of Dr. V. Y. Bowditch. His family history was good and he himself had never been ill previous to his present trouble. About three months ago, he began to suffer from pains in the back, sides and abdomen, and from a sensation of constriction around the body. Three weeks ago the pain extended to his lower extremities, they became weak and he was unable to walk without assistance.

December 30th. To-day an examination of the patient was made by Dr. Bullard at the request of Dr. Bowditch, as follows: Patient well developed and in excellent condition as regards general health.

Nothing abnormal detected about head, face, chest, upper extremities, or in any of the internal organs. Distinct prominence in the back, involving the fourth, fifth and sixth dorsal vertebræ, and over these there is some tenderness. There is a decided weakness of both lower extremities, but he can walk with the aid of a stick. Sensation is somewhat diminished everywhere in front below the seventh intercostal spaces; behind there is decided diminution below the level of the lower dorsal vertebra and slight diminution up to the level of the sixth dorsal. Thoracic reflexes normal as low as sixth or seventh ribs, below this and over the abdomen, the superficial reflexes are diminished. Over the back they are more marked in the upper portion than below, and are not marked over the glutei. Cremasteric reflexes slight; plantar cannot be obtained; triceps reflexes not remarkable. Knee jerks much increased on both sides. Paradoxical contraction obtained on both sides, left more marked than right (this disappeared in a day or so).

February 1st. From change of service the patient enters to-day under the care of Dr. Bullard. Has grown steadily worse since entrance. Paraplegia increasing, some difficulty in micturition and considerable pain.

February 6th. Complete paraplegia. Sensation as before.

February 19th. The question of operation has been considered, but it has been decided to place the patient on a Bradford frame.

March 1st. Not comfortable on frame. Girdle pains very severe.

March 15th. Removed from frame. Very serious bed-sores. Has been in great pain most of the time, partially relieved by morphine.

May 13th. Patient growing rapidly worse, bed-sores increasing, and pain being intolerable. General condition has been rapidly failing, and is now poor. For the last fortnight every means has been used to improve his general condition.

Transferred to care of Dr. Burrell. (Patient was seen by Dr. Burrell, in consultation, for the first time in February, and several times later. For more than a fortnight before his actual transfer, he was practically under his care.)

On May 14, 1889, the condition of the patient was truly pitiable. He was suffering intense pain, which morphia could hardly make bearable; he had a large bed-sore, which exposed the sacrum and which extended onto either buttock. Sloughs had already occurred at various points on the heels and over the heads of the fibulæ. Cystitis existed in a marked form. The patient urgently begged for some relief to his condition, and the uncertainties of the success of the operative procedure having been explained to him, it was undertaken.

The patient was etherized and an incision was made in each vertebral groove extending from the second to the seventh dorsal vertebra; these incisions were carried down to the laminæ. Considerable oozing of blood ensued, which was arrested by sponge pressure. A transverse incision was made uniting these two incisions in the vertebral grooves, just below the spine of the fifth dorsal vertebra. This made an H incision. Two flaps were raised from the laminæ and the spinous processes by means of a heavy knife and scissors, and thus were made musculo-cutaneous flaps which were reflected upward and downward; then by means of a Bonwell surgical engine, which was run at a low rate of speed, the laminæ of the third, fourth, fifth and sixth dorsal vertebræ were divided. Unfortunately the engine, the saw of which was kept constantly wet by a stream of water broke down when the laminæ were two-thirds divided and the operation had to be completed by the aid of an osteotome. The osteotome was then driven in directly over the spinous process of the second dorsal vertebra, breaking off its overhanging point. A separation was accomplished between the spines of the sixth and seventh dorsal vertebræ by means of a knife and scissors; this allowed the block of the spines and laminæ of the third, fourth fifth and sixth dorsal vertebræ to be raised up, hinging at the divided point of the spine of the second dorsal vertebra. The turning up of this block of spines and laminæ was not directly upward, but it was thrown a little to the right. This allowed a full, free exposure of the cord, which was seen in the bottom of the wound, seemingly normal in appearance, except opposite the fifth dorsal vertebra, where it was perceptibly flattened and did not pulsate. The veins of the cord were somewhat congested. The cavity was irrigated, and a small roughened portion of the lamina of the sixth dorsal vertebra was removed. The block of the spines and laminæ was turned down into position, and held by sutures to the adjacent muscular structure. Wound closed with catgut sutures, and dressed with baked gauze. Time of operation one hour and forty-five minutes.

The hæmorrhage which we expected would be quite severe was easily controlled; it was not greater in amount than usually occurs in a breast amputation and a clearing out of the axillary contents.

At the completion of the operation the patient was very cyanotic, and breathing was somewhat difficult. Stimulation was resorted to with partial success. The patient was put to bed reclining in prone position. Patient continued to improve very slowly throughout the day, and six hours after the operation took brandy per mouth, pulse very rapid and feeble. Eight hours after the operation patient was placed in a recumbent dorsal posture, and soon fell asleep. Respiration 36, pulse 144. Twenty-four hours after the operation it was noticed that he breathed with more difficulty and took less nourishment. Thirty-six hours after the operation the patient became cyanosed, his respiration became shallow, and he died of shock.

In commenting on this case we would say that it was undertaken as an experimental effort, with the distinct understanding with the patient that such was the case; and we both feel confident that had it been undertaken at an earlier period in the patient's illness, and at a time when his recuperative powers were stronger, it would not have ended fatally.

Dawbarn (*New York Medical Journal*, June 29) has reported a case where he resected for traumatic paraplegia. His operation occurred on December 20, 1888, and from his description we should judge that he attempted the same operative procedure that was undertaken in our case. His patient recovered, and some slight improvement in the symptoms ensued.

One of the advantages of the operation of "resection and reimplantation" is, that it lays bare a given portion of the spinal cord and restores the bony structures with a possibility, at least of their re-uniting; but at present, if we were asked to undertake this operation, we should decline, and should resort to the use of a

trephine and bone-cutting forceps for the removal of the laminæ.

The key to the success of any operative procedure on the spine will be the securing of an efficient means for dividing the bony structures with ease, speed and accuracy.

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Hospital Practice.

CASES AT THE MASSACHUSETTS GENERAL HOSPITAL.

BY H. H. A. BEACH, M.D., *Visiting Surgeon.*

LACERATION OF THE NECK OF THE UTERUS AND THE BASE OF THE BLADDER; VESICO-VAGINAL FISTULA; OPERATION.

THE patient was twenty-nine years old and had suffered from the annoyance and inconvenience of dribbling urine since the birth of her last child fourteen months ago. Upon examination a laceration was found dividing the anterior lip of the uterus and extending along the floor of the bladder for more than an inch and opening into that organ.

The borders of the laceration were freshened throughout their whole extent and then united by eleven silver sutures. Two weeks later all of the stitches were removed and the union found to be complete. Upon examination after two weeks more, hardly a trace of the laceration could be detected and there was no leaking from the bladder.

DISLOCATION OF THE SHOULDER-JOINT; SUBSPINOUS.[1]

The subject of this rare lesion was a middle-aged woman, who appeared at the out-patient department with the history of a fall, but could give no adequate description of the way in which she struck. Under ether the luxation was easily reduced by flexing the arm and rotating the head of the bone into the axilla; then extending the arm and applying moderate pressure with the hand in the axilla.

STRICTURE OF THE ŒSOPHAGUS; DILATION.

Two months ago, the patient, a woman of forty-three years, swallowed by mistake, a teaspoonful of undiluted nitro-muriatic acid. Profuse vomiting, and a burning sensation in the mouth, gullet and stomach followed. At the time of entrance to the hospital the inflammatory symptoms had subsided, but she was unable to swallow anything excepting liquids in small quantities. A No. 8 urethral bougie was with difficulty forced through a tight constriction below the level of the cricoid cartilage. This size was passed daily until it entered the œsophagus without difficulty. The size of the bougie was gradually increased until œsophageal bougies could be passed. They were also increased in diameter until one measuring thirteen-sixteenths of an inch entered easily. The patient was taught, and soon acquired, the knack of passing it herself. She improved much in health and strength with her increased capacity for taking nourishment of all kinds.

NECROSIS OF THE TIBIA INVOLVING THE KNEE-JOINT; OPERATION.

The patient was a man forty-three years old, who entered the hospital with his knee largely swollen, and presenting a number of fistulous openings apparently communicating with the interior of the joint. There had been a history of a fall five months before, striking the foot, but not the knee. Acute inflammation of the joint followed, pus formed and discharged spontaneously through the openings already described. This discharge continued up to the time when he entered the hospital. A number of small fragments of bone had been found on the poultices. A probe passed at the fistula on the inner side of the joint touched dead bone at a point about three inches below the patella over the centre of the tibia, but failed to reach the joint. A longitudinal incision of four inches was made from the spine of the tibia downward and the medullary cavity having been chiselled open, the disease was found to have involved more than one-third of the superior articulating surface of that bone. A large number of loose sequestra were removed and the carious bone curetted. The upper end of this bony canal now communicated directly with the knee-joint. The eroded cartilages of the femur and patella were carefully scraped away with the gouge and spherical rasp through an extension of the primary incision in the form of the branches of the letter Y along each side of the patella. The cavity was thoroughly drained, made aseptic, and, to ensure immobility, placed upon a bridged splint. The wound acted well from the first. A firm anchylosis gave all the advantages of an excision of the knee-joint without shortening.

TRAUMATIC ANEURISM OF THE ULNAR ARTERY; OPERATION.

Seven weeks before entering the hospital the patient had penetrated the ulnar side of the right wrist with a sharp fragment of glass from a broken tumbler. A sharp arterial hæmorrhage occurred, which was arrested by a handkerchief tourniquet and a bit of plaster. Upon examination the following day the puncture had closed. Some general swelling followed, and within a few days an abscess formed and opened spontaneously. As the swelling subsided, the patient observed a pulsating swelling at the seat of injury, which has slowly increased in size, without pain. There is a numbness of the little fingers and the ulnar side of the hand. The aneurism, of the size of a horse-chestnut, is in the line of the ulnar artery, and presents a red, shining surface, with visible pulsation, a distinct

[1] "This form of dislocation has been seldom met with. Only two cases, according to Sir Astley Cooper, occurred in Guy's Hospital in thirty-eight years; but in the last edition of Sir Astley Cooper's "Treatise on Fractures and Dislocations," edited by Bransby Cooper, nine cases are mentioned. Sedillot, Malgaigne, Desclaux, Van Buren, W. Parker, Lepelletier, Trowbridge, Physick, Snyder, Stephen Smith and myself have each seen one example Examples have also been seen by Dupuytren, Arnolt, Best, Levacher, Berard, Fizeau, Velpeau, Fergusson, Kirkbridge and by Rogers." [Hamilton. Fractures and Dislocations.]

thrill and lateral expansion. Pulsation can be arrested by compression of the ulnar artery above the aneurism. A tourniquet was applied and the sac laid open disclosing a mass of soft red coagulum, this was turned out, the upper and lower ends of the artery leading to and from the aneurism were tied with stout catgut, and the wound made aseptic. After the application of the dressing the arm was bandaged and a splint applied, to ensure perfect rest. Complete union by first intention followed, with restoration of sensation to the little finger and ulnar side of the hand.

PERI-NEPHRITIS; ABSCESS; OPERATION.

Four years ago the patient, a girl of twenty, had inflammation of the bladder, but had enjoyed good health until eight months ago, when she became chilled, and after that had dyspepsia and lost her appetite. In the course of ten days pain and tenderness developed in the left lumbar region, which had continued with greater or less severity. Emaciation and loss of strength had been progressive. There was a history of fever and chills, with swelling in the lumbar region six months after, that "broke" internally two weeks before she entered the hospital; the "lump" disappearing, and from four to six ounces of pus appearing in the urine at the same time. An examination of the chest gave a negative result; likewise that of the abdomen, with the exception of some induration and deep-seated tenderness in the direction of the kidneys. The menses and dejections were normal and there had been no vesical symptoms. The urine had a specific gravity of 1,015, and contained much pus and albumen, but no blood.

It was clear that unless some relief was obtained from the continuous pain and local irritation going on in the vicinity of the kidneys, her case was growing more desperate every day. An exploratory incision of five inches in the colotomy line, with a careful dissection, layer by layer, finally disclosed what appeared to be the wall of an abscess. It was punctured and six ounces of pus evacuated. The opening was enlarged and upon passing the finger into the cavity which occupied the normal position of the kidney the chambered or pouch-like walls of the side suggested the feeling of the interior of the renal pelvis, which had been distended by the pus. I could not detect any granular condition of its investing membrane to suggest a deposition of tubercle, neither was there anything indicative of a calculus. The cavity was thoroughly washed out, a large drainage-tube stitched in place and an aseptic dressing applied.

Her progress was uninterruptedly good. Four days after the operation the urine showed very little pus. In twenty-three days the drainage-tube was removed and the pus had completely disappeared from her urine. In seventy-five days from the day of entrance she was discharged from the hospital well and strong, with the sinus perfectly healed, having gained much in weight and strength.

— A sad comment on medical non-success comes from Chicago in the shape of the suicide of Dr. Edward Deans at the age of seventy-one. He had been county physician of Cook County from 1860 to 1863, but decreasing practice and lack of means and old age induced the suicidal act. A previous attempt in the same direction had failed.

Reports of Societies.

AMERICAN ORTHOPEDIC ASSOCIATION.

Third Annual Meeting, held in Boston, Mass., September 17th, 18th, and 19th.

FIRST DAY. — TUESDAY, SEPTEMBER 17.

MORNING SESSION.

The Association met in the hall of the Building of Natural History, and was called to order at 10.30 A. M. by the President, Dr. E. H. Bradford, of Boston, who spoke of the recent growth of orthopedic surgery, and of the illustrious efforts and achievements of Sayre, Stromeyer, Langenbeck, Bigelow, and many others.[1]

Dr. V. P. Gibney, of New York, read a paper on

THE TYPHOID SPINE,

in which he first drew attention to a group of symptoms pertaining to the spinal column as sequelæ to this fever, and when pressed for an anatomical diagnosis, he used the term *perispondylitis*, meaning an acute inflammation of the periosteum and the fibrous structure which hold the spinal column together. His reason for the use of this term was the production of acute pain on the slightest movement, whether lateral or forward, and the absence of any marked febrile disturbance or neuralgia. He reported three cases. Careful search of text-books failed to reveal any cases of like nature. He then alluded to a similar condition in which the hip was affected.

Dr. L. A. Weigel, of Rochester, N. Y. (by invitation), read a paper on

THE RELATION OF THE THORACIC AND ABDOMINAL WALLS TO THE SPINAL COLUMN CONSIDERED WITH REFERENCE TO THE TREATMENT OF ANTERO-POSTERIOR CURVATURE.

He reviewed in a very succinct manner the relation which the thoracic and abdominal walls bear to the spinal column, and endeavored to show that they assist materially in maintaining the upright position of the body, and must therefore be considered in the study of spinal curvatures. He drew the following conclusions:

(1) The spinal column in its general upright position is supported by the abdominal viscera, or rather by the resistance of the abdominal walls. Following the force of gravity the spinal column sinks downward until a resistance is met with. This resistance may be produced either by direct support on the viscera, or indirectly by pressure exerted through the elastic thorax and diaphragm upon the abdominal organs, which are thus forced against the muscular walls until an equilibrium of force is established.

(2) By the support which the abdominal viscera give to the spinal column and thorax, the abdominal muscles very materially supplement the action of the erector spinæ muscles by increasing the resistance which the viscera offer to the forward inclination of the spine and thorax.

(3) A backward inclination of the spine is limited by the tense abdominal muscles, and the firm linea alba to which they are attached.

A contribution entitled

PSOAS CONTRACTION AS A SYMPTOM,

was presented by Dr. Dillon Brown, of New York. He alluded to the various diseases in which this

[1] See page 299 of the Journal.

condition may be found and gave their diagnostic points, emphasizing the phenomena by means of which each disease could be excluded.

DR. A. B. JUDSON, of New York, read a paper on

THE PREVENTION OF THE SHORT LEG OF HIP DISEASE,

in which he said the deformities of hip disease are caused by the patient's efforts to so place the limb that it shall be the least disturbed by, and afford him the most convenience in, his customary attitudes and movements. They are (1) abduction; (2) adduction; and (3) extreme adduction and flexion. The second position is practically by far the most important. It is caused by the patient's elevating that side of the pelvis in order to take the limb off the ground, and to keep the affected limb out of the way of the well one, which is on the ground a longer time than the affected limb, and does most of the work of progression. The limb is maintained in the chosen position by reflex muscular contraction, which does not immobilize the joint, but fixes it in such a manner that changes in its position are readily made by the application of gentle but persistent force. It is proposed, therefore, to induce the patient, wearing a hip splint, which protects the joint from the violence of walking, to divide the time on the ground between the two feet, or rather between the foot of the sound side and the ischiatic crutch on the affected side, with the expectation that adduction and flexion will be wholly or in part reduced, when the affected limb makes repeated efforts to reach the ground and does its share in locomotion. It is believed that the patient can be induced by precept and drill to adopt this change in the manner of locomotion, with the result indicated, a belief which is sustained by the observation that patients led by accident to walk in this way, have recovered with a good position of the limb and by the results of the adoption in practice of this method of preventing deformity.

AFTERNOON SESSION.

DR. C. C. FOSTER, of Cambridge, Mass., read a paper entitled

A CASE OF CARIES OF THE ANKLE TREATED CONSERVATIVELY,

in which he gave a detailed account of the case and its treatment, showing the plaster casts of the foot before and after treatment. He did not claim that all cases should be treated conservatively. He knew that often, especially in hospital practice, resection was the only satisfactory treatment.

DR. CHARLES L. SCUDDER, of Boston (by invitation), read a paper on

REPORT OF CASES OF CARIES OF THE ANKLE TREATED BY EXCISION,

after which patients were exhibited.

He drew the following conclusions: (1) Excision is safe, and the mortality is not great. (2) The convalescence and time of after-treatment are short. (3) The disease in the foot is ended; and the prognosis is sure. (4) Profuse suppuration and its consequences are avoided. (5) The likelihood of septic infection is at a minimum. (6) The partial operation of curetting is of very little value. (7) There is no mutilation of the foot. (8) Its usefulness is very great after excision. (9) The question of tubercular infection from operative interference is yet unsettled. (10) Excision of all the diseased bone should be resorted to earlier in the treatment of chronic ankle-joint and tarsal disease.

DR. DEF. WILLARD, of Philadelphia, presented a paper entitled

REST AND FIXATION IN HIP DISEASE.

Dr. Willard advocated the employment of rest as an essential element in the abortion and arrest of the osteitic inflammation. This rest should be produced by removing the weight of the body from the affected limb. The more thorough the rest, and the more perfect the fixation, the less will be the resultant inflammation. Persistent and long-continued rest of the joint prevents rather than produces anchylosis. Fixation may be accomplished by traction in the horizontal position, with the addition of sand bags or side splints, with counter extension, or it may be employed in the upright position by traction splints. In either case, it is an assistant in overcoming muscular spasm. Fixation may be accomplished by splints of leather, wood, wire, plaster-of-Paris, or any other material, the essential condition being that the splint shall encircle the thorax so as to support the hip. Any splint, fixation or traction, which has simply a pelvic or waistband does not prevent motion at the hip-joint, and this thoracic addition should be the essential element in every apparatus.

Axillary crutches are far superior to perineal or ischiatic crutches, from the fact that they remove traumatism from the diseased joint, prevent the jar of walking, and permit the limb simply to swing during locomotion, thus exerting a far greater amount of traction than is possible in any walking splint when the foot is placed upon the ground.

A paper on

ABSCESSES IN HIP DISEASE, THEIR PREVENTION, SIGNIFICANCE AND TREATMENT,

by DRS. R. W. LOVETT and J. E. GOLDTHWAITE, of Boston, was read by the latter.

The treatment of abscesses of hip disease is a question which has been widely discussed, and one upon which diametrically opposed views have been held. No figures bearing upon the relative value of the treatment have yet been brought forward. The large number of cases reported by the essayists were treated at the Boston Children's Hospital. Of 288 cases reported by Dr. Gibney, the mortality per cent. was only 12 1-2. Billroth following cases after they had left his clinic found a mortality of 31 3-4 per cent. Heuter in 86 cases found a mortality of only 27 per cent. In Gazin's series of 80 cases of suppurative hip disease (sent to Berck after they had ceased to improve in Paris Hospitals), only 12 1-2 per cent died.

The operation for abscesses in hip disease is not attended with the risk of septicæmia which is sometimes attributed to it, and it does not prevent amyloid degeneration from taking place. In 43 cases where the present condition of the patient is accurately known, the abscess wound is closed in 20, and one or more sinuses are still open in 23. Of the cases where the sinuses are still open, in five a year has passed since operation, ten are open at the end of two years, seven at the end of three years, and one at the end of four years. In the 20 cases, ten sinuses closed within a year after operation, and six between one and two years. Finally, it may be said that thorough

operation is followed in a fair proportion of cases by the speedy closure of the abscesses.

SECOND DAY. — WEDNESDAY, SEPTEMBER 18TH.

MORNING SESSION.

This session was devoted to the reading of short papers upon

THE TREATMENT OF HIP DISEASE,

and papers were read as follows: The Principles of Treatment, by Dr. N. M. Shaffer, of New York; The Early Local Treatment, by Dr. A. Steele, of St. Louis; The Operative Treatment, by Dr. De F. Willard, of Philadelphia.

Dr. John Ridlon, of New York, reported a case of

CONGENITAL DISLOCATION AT THE HIP.

The patient, a female, aged ten and one-half years came under his observation February 16, 1888. The right great trochanter was two and one-half inches above Nélaton's line, and it required a blocking under the foot of three inches to make her stand fairly erect, The old pattern of the Taylor extension hip splint was applied, and the leg elevated on an inclined plane. For one year the child did not leave her bed, and no relaxation of the contraction was once permitted; at the end of this time it was possible to locate the head of the femur, which was found to be displaced upwards and forwards, lying almost directly below the anterior iliac spine, and the difference in length of the legs was found to be reduced to one-half inch. A jointed splint was applied February 1, 1889, and the patient was allowed up. The case was interesting on account of the direction of the dislocation. He had been unable to find another such case recorded.

Dr. Bernard Bartow, of Buffalo, contributed a paper on

THE IMMEDIATE DISREGARD TO MALPOSITION OF THE THIGH IN THE TREATMENT OF HIP DISEASE,

in which he called attention to a plan of treatment purely fixative in character which he had employed in the earlier stages of hip-joint disease. This plan consists essentially in having the patient suspend himself by the head in the manner required for the application of the plaster-of-Paris jacket in spondylitis. During this operation the foot of the well limb is made to rest on a block from four to six inches in height, so that the affected limb will by its own weight exert traction upon the muscles about the hip-joint.

The trunk and limb having been encased in stockinet, should then be wrapped in cotton wadding bandages to protect the surface from the sixth or seventh rib to the middle of the leg; over this dressing plaster-of-Paris bandages should be applied in a manner to include the trunk, hip and limp within the limits indicated. Then strips of thin malleable steel should be bent to conform to the contour of the body and limb, and inserted between the bandages on the anterior, lateral and posterior parts of the dressing. As soon as the dressing has become hard, it should be trimmed out on the inner side of the thigh where it passes under the perineum, and all of the edges smoothed to prevent chaffing of the skin. A high shoe and crutches having been provided, the patient may be taught their use with the least possible delay. A splint thus formed will hold the hip-joint in an immovable manner. It will possess sufficient strength to permit of the patient being lifted or carried without causing pain or the fear of painful movements of the joint.

In every instance in which the writer had used this dressing the patient had expressed feelings of relief as soon as the splint had been completed.

AFTERNOON SESSION.

The Association met in the lecture-room of the out-patient building of the Children's Hospital.

Dr. E. G. Brackett, of Boston, read a paper on

AN EXPERIMENTAL STUDY OF DISTRACTION OF THE HIP-JOINT,

in which he said the treatment of this subject consists in the consideration of the anatomical possibility of a distraction, influenced by the counteracting forces met in the living subject. The points involved are the resistance of the bony formation, the influence of atmospheric pressure, and the resistance from ligaments and muscles. In the adult the prominent part of the lower portion of the head of the femur rests in the bottom of the acetabulum which affords a surface nearly horizontal for its support; and traction is therefore mainly suspended in pulling the head down on the surface. When a separation occurs it is shown by a widening at the hips as well as by an elongation of the limb. In children, there is no such interlocking of these two bones, but the axis of the joint is more nearly parallel to the line of the leg, and a separation is indicated by an increase in length of the limb and but slightly by an increase in width between the trochanters. The influence of atmospheric pressure was studied on cadaver, but the conclusions were that this force was very slight and unimportant, and the effect of traction on the child's joint was studied experimentally on the cadaver, and it was found that there resulted an increase in length of between 2 and 3.5 millimetres in ordinary positions, and 1.5 millimetres and less in width.

The conclusions are that anatomically distraction is an evident fact. When clinically considered these results are applicable only with the influence of the muscular force in view. Such could come only from tonicity or contraction. The former is not a working force, but rather a condition of repose. A long continued state of the latter is physiologically impossible, for by our repeated and constant stimulation, the muscles become exhausted, and finally remain in a state of quiet, and in this condition allow as much elongation as would be necessitated by the anatomically possible separation. This behavior of the muscles was demonstrated on a case of congenital dislocation. Two subjects under treatment for hip disease, who were favorable for an accurate measurement, were examined for any change in this bony relation, and in both a change of three millimetres was found. The claim was not made for the occurrence of distraction whenever traction was used, nor that it is possible in every case of disease, but it was claimed for a breach of contact of the two surfaces when traction is properly applied under favorable conditions.

Mr. John H. Huddleston, of Boston, read a paper entitled

AN ANALYSIS OF TWENTY-ONE CASES OF HIP DISEASE TREATED BY THE THOMAS SPLINT.

He said the splint had been applied in the Boston Children's Hospital by men, some of whom had seen

Mr. Thomas's clinics, and others who had carefully studied the directions given by Thomas on the hip, knee and ankle. Special malleable iron for the material of the splint had been obtained, and great pains taken to make the appliance really a Thomas splint. On examining the records of both the hospital and the out-patient department, it was found that since 1881, twenty-one cases of hip disease had been treated with this splint. No attempt had been made to choose the cases for the splint, but it had been put on in all stages of the disease and kept on, in some cases, throughout the course of the affection, and in other cases till the interest of the patient demanded a change. Moreover, it had been used not only as a treatment for the disease, but also as a special remedy for some temporary condition of deformity. Cases were seen once a month or oftener and were taken from the ordinary class of out-patient cases. Of the twenty-one cases, satisfactory notes have been obtained in fourteen, and notes sufficient to explain the use and the result of the splint in five more. One patient died shortly after the application of the splint, and one has not been heard from.

Before summing up the results, it may be added that it has been found difficult to fit the splint, and more difficult to keep it in place after fitted. Of the fourteen patients whose histories are long enough to be valuable in estimation of the splint, nine had abscesses; at least nine had elevation of the trochanter above Nélaton's line; eleven had shortening of an inch or more; eight had atrophy of the thigh of more than two inches; five had five degrees or more of adduction; eight had some flexion; six had no motion at the joint; four had motion of only a few degrees; three had a good amount of motion; one had perfect motion; six were brought into the hospital for correction of deformity or relief of pain.

Finally, the character of the results obtained is shown by the table to be in a broad way: good position with little flexion and adduction, but great shortening, great atrophy, and very constant elevation of the trochanter above Nélaton's line, with a remarkable percentage of abscesses.

Following the reading of these papers a large number of orthopedic cases were shown, after which the members of the Association visited the hospital wards.

EVENING SESSION.

The Association met at the Tavern Club, No. 4 Boylston Place, at 8.50 P. M.

DR. JOHN RIDLON, read a paper on

FIXATION AND TRACTION IN THE TREATMENT OF HIP-JOINT DISEASE.

He said the treatment of inflammation in and about the hip-joint should, in a general way, be governed by the same principles that govern the treatment of inflammation of like character in other portions of the body, and that physiological rest of the inflamed structures is the chief end to be sought. By *physiological rest* he meant relief from the performance of the normal functions. The functions of the hip-joint are motion and the sustaining of weight. Involuntary spasm may give pressure in the same way as does superimposed weight until convalescence is well established, and to counteract the muscular spasm so long as that spasm is in any way harmful. To remove the superincumbent weight, he places the patient in the horizontal position (not necessarily confining him to bed) on a patten with crutches, and a long extension splint. The most effective is obviously the horizontal position; next to this stands the high patten (four to six inches) and crutches, while the most convenient is the long extension splint.

DR. R. H. SAYRE, of New York, read a paper on

EXCISION OF THE HIP-JOINT,

in which he said the *first* question that presented itself, is, whether it is proper to excise this joint under any circumstances, and, *second*, if it is a proper operation, at what time is it best done, and in what manner? He believed ordinary cases of hip-joint disease to be tubercular, that is, tuberculosis is acquired, not inherited; that some additional local influence, such as injury, is necessary to determine the part of the body which is attacked, and that under appropriate mechanical treatment, commenced early in the disease, with good hygienic surroundings, nature in the vast majority of cases is able to effect a cure without excision of the joint. Much valuable time had been lost in the past while hesitating to excise. With the present improved methods of wound-treatment there undoubtedly was a tendency to operate too early, and sometimes too often. In the operation pains should be taken to remove all the diseased tissue, provided the patient is not too weak to endure a prolonged operation, and care should be taken to wound as few vessels as possible, and do the least possible damage to surrounding healthy structures, as the chances of general systemic infection are thus much lessened.

THIRD DAY. — THURSDAY, SEPTEMBER 19TH.
MORNING SESSION.

DR. G. W. RYAN, of Cincinnati, read a paper entitled

WHEN SHALL TREATMENT BE DISPENSED WITH IN SPONDYLITIS?

The writer believed that much might be said on this point. It was a matter which had a wide interest to every orthopedic surgeon, and was never an easy matter to determine. Little is said about it in orthopedic literature, for the reason probably, that every surgeon believes that each case must be judged individually. He believed also that, as a rule, the orthopedic surgeon kept an apparatus on too long, and that the general surgeon took it off too soon. He had seen many cases of spondylitis in which the appliance had been removed too early, and many others in which he was satisfied that it was kept on too long. He stated that a slight increase in a kyphosis, which is already well-marked, makes a very great change in the gait, the appearance and the growth. The speaker believed that the atrophy was in a measure a test of the efficiency of the treatment. The nearer perfect the treatment the greater the atrophy. He believes that when disease is no longer present, an appliance was a foreign body, and retarded muscular growth and exercise. No general rule could be laid down concerning the time treatment should be dispensed with, but some indications might be pointed out. Spondylitis may be found in two classes of cases. Those who are essentially tuberculous, and those who are not, the disease of course being tuberculous in all. He thought that the type of the patient largely influenced the course of the disease. The general health of the patient reflects in a great

degree the stage of the disease. Absence of pain was of little value as efficient support always relieved that. He had often found a compensatory depression beneath the kyphosis indicative of cure, as pointed out by the older surgeons. Time determines little or nothing. Many cases of cervical and lumbar diseases got well without treatment, and with fairly good results. Where the surgeon is satisfied that treatment can be done away with, the case must be carefully handled. The matter requires a great deal of care, and the appliance should be slowly dispensed with. Massage, cold baths, and faradism are of great service at this time.

DR. A. J. STEELE, of St. Louis, read a paper on

A NEW EXERCISE IN THE TREATMENT OF LATERAL CURVATURE OF THE SPINE.

AFTERNOON SESSION.

DR. W. R. TOWNSEND, of New York, read a paper on

ACUTE ARTHRITIS OF INFANTS,

in which he said that this is essentially an osteomyelitis in infant life, the difference in pathological conditions being largely due to difference in anatomical conditions and relations of the epiphysis to the joint. Various forms of staphylococci have been found in some cases, notably staphylococcus aureus and albus. The symptoms are quite constant; flexion of joint, the production of abscesses involving the joint and constitutional symptoms of pyæmia. In the treatment early and complete evacuation of the inflammatory products is necessary, and heart stimulants and tonics should be given. Most cases occur under one year of age, and in about fifty per centum of cases fatal results occur. He reported seventeen cases, and from his examination of others finds that the joints most affected are the hip, knee, and shoulder.

The following papers were read:

THE TREATMENT BY PORTATIVE APPLIANCES OF UNUNITED FRACTURE OF THE THIGH,

by NEWTON M. SHAFFER, of New York;

OPERATIONS UPON THE SPINE FOR THE RELIEF OF PRESSURE PARALYSIS, WITH REPORT OF A CASE,[2]

by DRS. HERBERT L. BURRELL and W. N. BULLARD, of Boston;

A CASE OF FUNCTIONAL TORTICOLLIS. PROBABLY DUE TO DEFECTIVE EYESIGHT,

(with exhibition of patient), by DR. R. W. LOVETT, of Boston, and

A CASE OF CONGENITAL ABSENCE OF FIVE RIBS WITH RESULTING DEFORMITIES,

by DR. HOMER GAGE, of Worcester, Mass.

Officers for 1890: *President*, DR. De F. Willard, of Philadelphia; *Vice-Presidents*, Drs. A. J. Steele, of St. Louis, and A. B. Judson, of New York; *Recording Secretary* and *Treasurer*, Dr. G. W. Ryan, of Cincinnati; *Corresponding Secretary*, Dr. Samuel Ketch, of New York.

On motion the Association adjourned to meet in Philadelphia, third Tuesday in September, 1890.

— "Gum-chewer's cramp" is the latest discovered form of professional neurosis.

[2] See page 405 of the Journal.

THE AMERICAN PEDIATRIC SOCIETY.[1]

THE next paper was by DR. DILLON BROWN, New York, on

NOISY RESPIRATION,

enumerating the different causes which may give rise to it.

TUBERCULOSIS OF THE TESTIS IN CHILDHOOD,

by DR. H. KOPLIK, New York.

The case now reported is largely on account of the extreme rarity of the affection. The child was twenty-two months old, and was seen February 14, 1889. Mother was healthy, but the father had died with symptoms indicating phthisis. Two months before coming under observation, swelling of the calf of the left leg occurred. This had opened and the discharge continued. Later the left testicle became enlarged to the size of a hen's egg, not painful. Right testicle normal. The swelling of the left testicle had ruptured and was discharging a liquid looking like pus. Scrappings from the sinus in the testicle showed the tubercle bacillus. There were lymph nodes in both groins and in the neck. The enlarged organ was removed as thoroughly as possible. There was, however, a return of the disease in the cicatrix of the operation wound. This was removed by a second operation. The patient rapidly recovered from the second operation, and there is nothing to warrant a clinical diagnosis of tuberculosis of any other part of the body.

ACUTE SUPPURATIVE PERITONITIS FOLLOWING VULVO-VAGINAL CATARRH,

by DR. FRANCIS HUBER, New York.

The patient, seven years of age, had vulvo-vaginal discharge, but did not seem to be very sick. She was suddenly seized with collapse with subnormal temperature. This was followed by pain in the right iliac fossa and vomiting. It was thought that there had been a rupture of the vermiform appendix. The next day the patient seemed better. The pain increased, the pulse became more rapid, and the temperature went up to 100°. The patient was seen by other gentlemen who agreed with the diagnosis. Operation was determined on, and performed June 4. Considerable seropurulent fluid was found. The appendix, however, was normal. The right fallopian tube was inflamed and thickened, and it had evidently formed the channel by which the infecting substance had gained access to the peritoneal cavity. The abdomen was washed out, and an antiseptic dressing applied. Death occurred twenty hours later from heart failure. The vulvo-vaginal catarrh was supposed to be of specific origin.

SCLEREMA NEONATORUM,

by DR. W. P. NORTHUP, New York.

The case reported was the only one that had been met with in the 7,000 children received at the New York Foundling Institution. February, 1885, two children, twins, five days old, were received at the institution. Both were girls. One was apparently healthy, but the other was extremely weak. The surface of its body was cold and the rectal temperature 96°. The surface of the body was hard, swollen and cold. There was no pitting. Two days after admission, when the thermometer was left in the rectum for five minutes, the index failed to reach the lowest de-

[1] Concluded from page 394 of the Journal.

gree marked on the instrument by three-quarters of an inch. The child remained in this condition until the ninth day, when it was pronounced dead. Every organ of the body was thoroughly examined after death, but nothing abnormal could be found. The vessels of the skin were perfectly normal. This affection, although rare in this country, is quite common in Germany and in France. Most of the cases reported have these points in common. The child is one of twins; it is born in mid-winter; it comes from some corner of squallor; it should be jaundiced; it should begin to be hard on the sixth day; and die on the ninth or tenth day. As regards the pathology of the affection, it has been suggested that it is connected with the fat-forming function of the body; stearine and palmatine being formed instead of olein. The former becomes hard at a higher temperature than does the latter.

EVENING SESSION.

THE ARTIFICIAL FEEDING OF INFANTS,

by DR. ARTHUR V. MEIGS, Philadelphia.

Cow's milk forms the basis of most of the artificial foods used in civilized countries. While most analyses of cow's milk practically agree, different analyses of human milk differ greatly in regard to the amount of casein and of sugar present. These differences he considered to be due to faulty analyses. Pure cow's milk contains three per cent. or more of casein, while human milk never contains more than one per cent. of casein. He advocated a mixture of diluted milk, cream, sugar of milk and lime water. The method of preparation is as follows: one quart of milk is allowed to stand in a high pitcher for three hours, one pint of this is then slowly poured into another vessel, thus obtaining the upper, rich layer. When the child is to be fed take of this milk, three tablespoonfuls; lime water, two tablespoonfuls; and sugar water, three tablespoonfuls. The sugar water is made by dissolving eighteen drachms of milk sugar in one pint of water. He had used this preparation in private practice and in hospital practice among foundlings.

DISCUSSION.

DR. L. EMMETT HOLT, New York, had used this formula with good results. He insisted, however, that attention should be paid, not only to the article fed, but also to the quantity given and the frequency of feeding.

DR. J. HENRY FRUITNIGHT spoke of the dangers attending the use of the nursing-bottle with the long tube, and thought that the nipple should alone be used.

DR. A. CAILLE, New York, had been surprised to hear no reference to the importance of sterilizing the milk.

DR. JOHN A. JEFFRIES, Boston, said that it was important to recognize the fact that if the milk is to be sterilized it should be done early. Often the milk is sterilized after decomposition has begun and the chemical products are already formed.

DR. A. V. MEIGS, Philadelphia, while he recognized the value of sterilization, did not consider it necessary where the best kind of milk could be secured and among poor people it would be difficult to have it carried out.

A CONTRIBUTION TO THE SUMMER DIARRHŒA OF CHILDREN,

by DR. JOHN A. JEFFRIES, Boston (by invitation).

The speaker had made cultures from a large number of stools of children with summer diarrhœa, had separated the various bacteria found, and then experimented with these cultures on young kittens kept under the best hygienic conditions. The animals were experimented with in many ways, some were given sterilized milk, some ordinary milk, some the bacteria from solid cultures mixed with minced meat. These latter showed no effect. It was found that a good many of these bacteria produced diseases seemingly identical with the diarrhœa of children. Again, cultures in milk were allowed to grow two days, then the milk was re-steamed on three successive days, so that nothing was present but the products of the growth of the bacteria. This milk was then fed and produced diarrhœa, sometimes running on to a fatal result. The symptoms produced and the post-mortem appearance found seemed to be identical with those of the disease in children. These experiments led him to believe that the summer diarrhœas of children were due to the ingestion of the products of bacterial growth with the food.

CASE OF DIAPHRAGMATIC HERNIA WITH OPERATION,

by DR. J. O'DWYER, New York.

The patient, A. B., three and one-half years of age, was taken sick November 20, 1888. No previous history could be obtained. There was dyspnœa, temperature of 105° and no movement of the bowel for ten days. There was flatness on percussion over the left chest with absence of the respiratory sounds. The case was considered to be one of empyema and a needle was introduced but no fluid escaped. Eight days later the bowels having been freely moved, the temperature fell to normal. From this time until January 15, 1889, when he was first seen by the speaker, he had several similar attacks, the temperature ranging from 102° to 106°. Each of these attacks corresponded with an attack of constipation and relief was afforded by a cathartic. The case was still considered to be one of empyema and a needle was again introduced. Nothing being obtained a long trocar was inserted with the same result. The distal end entered at least three inches and could be moved freely. An opening was then made in the sixth interspace and the finger inserted. The patient gave a slight cough and forced out six inches of small intestine through the opening. This was replaced with difficulty and the wound closed.

It was concluded that an opening lower down to determine the position of the hernia would not increase the danger. The following day an incision was made in the tenth intercostal space and a portion of the ninth and tenth ribs excised. This gave ample room. The rent in the diaphragm was at once apparent. The intestines were returned to the abdomen with difficulty as there did not appear to be room for them. The opening in the diaphragm was closed with six strong sutures. When the operation was completed the force below was so great that the diaphragm was forced high into the chest. The wound in the chest wall was then closed. Death occurred suddenly six hours after the operation. At the autopsy the edges of the wound were found separated. The specimens were exhibited, the hernia was in all probability congenital.

PROLAPSUS RECTI, DUE TO A LARGE STONE IN THE BLADDER,

by DR. A. CAILLE, New York.

The child, a girl three years of age, had for a long time suffered with prolapse of the rectum. At the time of the examination, there was a prolapse of two inches of the bowel. At times, seven inches protruded. Careful examination showed a large stone in the bladder. This was removed by the supra-pubic operation. During convalescence, the rectum came down once, but not since.

SOME PRACTICAL POINTS IN THE DIAGNOSIS OF MALARIA IN CHILDREN,

by Dr. H. N. Vineberg, New York.

The paper was based upon a study of eighty cases of malaria occurring in early life. The symptoms of the affection are, chill, fever, sweating, enlargement of the spleen, and the presence of hæmatozoa.

Chill is rare in young children, and may be replaced by convulsions, which may be repeated several times in a few hours. There is one disease, in particular, which makes a child very prone to convulsions, that is, rickets. This is true of the mild as well as of the severe forms of the affection.

Fever is a most constant symptom. It is said to be distinguished from the fever of other affections by its violence and rapid disappearance. Sudden onset of high temperature may also occur in other affections.

The *sweating* stage in children is usually imperfect, both in degree and duration.

The *spleen* enlarges more rapidly and to a greater degree in children than in adults. In early life, even small doses of the poison are sufficient to cause an increase in the size. While, at first, it decreases in size with the subsidence of the paroxysm, yet after two or three paroxysms, it remains enlarged in the intermission. Splenic enlargement is, however, not a pathognomonic sign of malaria. All of the acute infectious diseases are attended with swelling of the spleen.

Hæmatozoa. The diagnostic importance of this sign is still in doubt, although the weight of evidence is in favor of their pathognomonic value. They appear to be present only in the grave types. The author had sought for them in fifteen cases of acute malarial poisoning, but had not found them.

The diseases most likely to be mistaken for malaria are acute gastritis and typhoid fever. Swelling of the spleen is, however, absent in acute gastritis, although present in typhoid fever. Some lay great store on the negative value of herpes labialis. While common in acute malaria, it is said to be absent in typhoid fever. The temperature range in typhoid fever is different from that of malaria. The appearance of a roseola rash in typhoid fever is pathognomonic; but for this we have to wait twelve days. If still in doubt, the blood should be examined. In such cases, quinine is of value as a therapeutic test.

In the cases of chronic malaria, enlargement of the spleen becomes of great importance as a diagnostic sign.

DISCUSSION.

Dr. Charles Warrington Earle, Chicago, asked what was the best method of giving quinine to children. His own habit is to give the whole daily amount needed in one dose, or two doses given close together.

Dr. A. Seibert, New York, referred to the value of a greenish hue of the coating of the tongue in the diagnosis of malaria.

SPASTIC PARAPLEGIA.

by Dr. Thomas S. Latimer, Baltimore.

He reported two cases of this affection occurring in a brother and sister; the former was twenty years old, the latter eighteen. In both cases the disease was noted at an early age. There are three other children in the family who show no signs of the disease. So far as known this is the only instance of the disease affecting two members of the same family. In the case of the girl, some benefit in the gait had been affected by division of the adductor muscles.

A STUDY OF SOME OF THE BACTERIA FOUND IN THE DEJECTA OF INFANTS AFFECTED WITH SUMMER DIARRHŒA

(second communication), by William D. Booker, M.D., Baltimore, Md.

The first communication upon this subject was read before the Section of Diseases of Children of the ninth International Medical Congress, and contained a description of eighteen varieties of bacteria isolated from the fæces of sixteen children affected with summer diarrhœa.

This article is a continuation of the first and embraces subsequent work, containing a description of seventeen varieties of bacteria isolated from the fæces of fourteen children affected with summer diarrhœa. Bacteria have thus been isolated from the fæces of thirty infants affected with summer diarrhœa, eleven of whom had cholera infantum, fourteen catarrhal enteritis and five dysentery. With the exception of bacterium lactis ærogenes and bacterium coli commune, the two constant milk-fæces bacteria, no species appears with much constancy taking the cases as a whole.

If the different forms of diarrhœa are considered separately, in the cases classed under the head of cholera infantum, one group of bacteria, the proteus group, has been found in seven of the eleven cases examined. In the four cases in which no member of this group was found agar was used exclusively as the separating medium in three cases and in the other case a number of cultures were lost before being identified.

During the past summer, 1889, bacteria were isolated from the fæces of thirteen children, eight of whom had cholera infantum and five catarrhal enteritis. While the differentiation of all the cultures in these cases has not been sufficiently worked out to incorporate in this report, the proteus bacteria have been identified with certainty in the eight cases of cholera infantum.

The addition of these eight cases makes a total of nineteen cases of cholera infantum in which bacteria have been isolated from the fæces, and in fifteen of the cases one or more members of the proteus group of bacteria have been found.

The prominent symptoms of the cases of cholera infantum in which the proteus bacteria were found, were drowsiness, stupor, emaciation or great reduction in flesh, more or less collapse, frequent vomiting and purging, with watery and generally offensive stools.

No variety of bacteria appeared to be especially associated with the cases of catarrhal enteritis or dysentery. The fæces in catarrhal enteritis often contained an enormous quantity of bacteria, chiefly varieties of colon bacteria and bacterium lactis ærogenes with a number of inconstant varieties.

In conclusion, it must be understood that this work is too incomplete to admit of positive conclusions, and

as referring to the examination of but a limited number of cases, in which not even all the varieties of bacteria contained in the fæces that can be cultivated on our present nutritive media are supposed to have been separated, and those separated have been but imperfectly studied.

TWO YEARS' EXPERIENCE IN THE MECHANICAL TREATMENT OF THE GASTRO-INTESTINAL DISORDERS IN INFANTS,

by DR. A. SEIBERT, New York.

By the term mechanical treatment he had reference to the washing out of the stomach and the large bowel. After the cause giving rise to these disorders has entered the bowel the first thing to do is to get rid of it as soon as possible. In many cases if the stomach and bowels are emptied the case is cured. Since September, 1887, he had treated all cases of gastro-intestinal troubles in children by these measures. In no case has the child been made worse by this treatment and even in those cases ending fatally, the children were relieved temporarily. In all cases of diarrhœa whether moderate or severe the bowel was washed out two or three times a day. The youngest patient thus treated was a baby one and one-half days old, which vomited everything put into its stomach. One washing out was followed by complete relief. Collapse is one of the strongest indications for stomach washing. The apparatus used consists simply of a soft rubber catheter attached to a rubber tube by a glass connection. In most of the cases no medicament was added to the water.

The following officers were elected:

President, Dr. J. Lewis Smith, New York; *First Vice-President*, Dr. A. V. Meigs, Philadelphia; *Second Vice-President*, Dr. F. Forcheimer, Cincinnatti; *Secretary*, Dr. W. D. Booker, Baltimore; *Recorder*, Dr. Wm. Perry Watson, Jersey City; *Treasurer*, Dr. Charles Warrington Earle, Chicago; *Additional Member of Council*, Dr. L. Emmet Holt, New York.

The following new members were elected: Drs. J. A. Jeffries, Boston, H. Jackson, Boston, C. Townsend, Boston and Henri LaFleur, Baltimore.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

T. F. SHERMAN, M.D., SECRETARY.

ANNUAL Meeting, Monday, April 1st, at the Medical Library, 19 Boylston Place. DR. E. D. SPEAR in the chair.

DR. HASKET DERBY read a paper on

SOME CAUSES OF PREVENTABLE BLINDNESS.[1]

DR. AYER asked what the dangers were, if any, in the use of the two per cent. solution of nitrate of silver, and if the reader would advise its use as a routine treatment.

DR. DERBY replied that there was no danger in the use of the silver solution — it might cause a slight irritation, but would not injure the cornea. He would not advise its use in every case, but should use it whenever there were any suspicions in regard to the matter.

DR. AYER asked what precautions the reader would take in a case of ophthalmia appearing in one eye to prevent it spreading to the other.

DR. DERBY: I rarely take any except to enjoin strict cleanliness. The treatment by occlusion, as advised by some, is very difficult to carry out; if ophthalmia occurs in one eye it usually will in the other.

DR. F. M. BRIGGS reported

A CASE OF PAPILLOMATOUS URETHRITIS.[2]

DR. GREEN asked what the reader would advise in case of persistent recurrence of the growth.

DR. BRIGGS replied that he would use a solution of nitrate of silver, ten grains to the ounce, increasing to forty or fifty grains to the ounce if required, but said that it had been stated that when these growths are well removed they do not tend to recur.

DR. FITZ asked if the reader found any record of these papillomatous growths occurring without any urethritis.

DR. BRIGGS replied that Oberländer, of Dresden, says that they may occur without any previous history of gonorrhœa, although as a rule they follow a case of gonorrhœa which has continued for some time.

DR. FITZ said that they practically belonged to the same class as anal papillomata.

DR. SPEAR asked if the operation of removal was painful.

DR. BRIGGS replied that he previously injected a four per cent. solution of cocaine and the operation was not at all painful.

Recent Literature.

Manual of Chemistry. A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Text-Book Specially Adapted for Students of Pharmacy and Medicine. By W. SIMON, Ph.D., M.D., Professor of Chemistry and Toxicology in the College of Physicians and Surgeons; Professor of Chemistry and Analytical Chemistry in the Maryland College of Pharmacy, Baltimore, Md. Second edition. Philadelphia: Lea Brothers & Co. 1888.

Dr. Simon has, we think, made a great mistake in trying to crowd so many subjects into an octavo of 460 pages. He has included in this volume the principles of theoretical chemistry, the descriptive chemistry of the elements, organic, analytical and physiological chemistry. It is a natural result that some parts of the book are very unsatisfactory. The section on physiological chemistry, especially, is far from meeting the requirements of the medical student. The rest of the book is better; still, it is evident throughout that the author has been obliged to omit much that is important in order to include analytical and physiological chemistry, each of which demand a separate volume. For example, drinking water and disinfection are topics which very properly find a place in a work on chemistry which has been prepared for the use of students of medicine. Dr. Simon has given less than a page to each. Many other similar examples might be given.

So far as it goes, however, the text is accurate and, doubtless, many will find the book to be just what they want for use in connection with a more extended lecture and laboratory course. The paper and printing are good, while the colored plates illustrating precipitates in various reactions form a novel feature which will doubtless be appreciated by the student.

[1] See page 401 of the Journal.

[2] See page 403 of the Journal.

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THE RECIPROCAL RELATIONS OF THE NURSE AND THE PHYSICIAN.

THE nurse has a sphere of responsibility no less important than the doctor. Of course, the interests of the two are identical. The nurse is largely dependent for her success on the intelligent help of the doctor, and the latter is no less dependent on his nurse. Blundering and incompetence on the part of the one are as disastrous as blundering and incompetence on the part of the other. The efforts of the best physician will be likely to be thwarted if he has a careless and unfaithful nurse who neglects to feed the patient at the proper times, or give the medicines as prescribed; on the other hand, the most skilful nurse will be hampered and handicapped if the physician's diagnosis and treatment are wrong.

In many respects the nurse's lot is harder than that of the doctor. He makes his daily visit to the bed of suffering, but that visit may be a short one, and he is soon out again in the open air; has solace and diversion in the variety of his cases; can enter his study and contemplate with some satisfaction the scientific aspect of a very trying and painful case. The nurse (this is especially applicable to private practice) is obliged to be with the patient constantly, and this may be, to a sensitive, sympathizing nature, the greatest strain conceivable. There is nothing more admirable than the fortitude, devotion, patience and endurance manifested by many nurses under such circumstances.

The nurse should be loyal to the attending physician (if indeed he be worthy of her confidence), and not allow herself, by word or look, to impair the confidence of others in him, though he be not her favorite physician; he is there not by her choice, but by that of the family, and any attempt to excite prejudice against him in favor of another (who may really be far less worthy) must be characterized as mean and mischievous meddling, if not dishonorable intriguing.

There should be earnest coöperation between the physician and the nurse. As far as the latter, by her better opportunities to become acquainted with the idiosyncrasies of the patient and the peculiarities of the case, can give the physician light on the case, she will not hesitate to do so, and the physician will deem himself fortunate in obtaining such help in the management of the patient. Thus the physician may have to depend on the nurse for information as to the likes and dislikes of the patient for articles of food, and as to the state of the bowels, the quality of the stools, the quantity and general character of the urine, the amount of sleep, etc.

It is needless to say that a nurse is not fitted for her place who has not had some preliminary instruction and training in those branches which qualify the physician for *his* career. While nurses do not need the extensive knowledge of anatomy, physiology and pathology which the physician requires, some general knowledge of those subjects they certainly need. Their occupation compels them to be constantly hearing medical terms, and, although they do not expect to be doctors, they cannot help a growing sympathy with the practical details of a physician's life, and their ambition to achieve a genuine success, as well as their interest in medical subjects, will continually prompt them to consult medical books, and even read with avidity the medical journals.

Though surgery can never be their province, yet that part of minor surgery which pertains to surgical dressings and bandaging does belong to them, and must be diligently cultivated. Some knowledge of obstetrics and materia medica is equally necessary. With regard to drugs, the nurse needs some acquaintance with their actions and uses. Without such knowledge she cannot intelligently coöperate with the physician. The day has gone by when physicians could afford to keep their nurses in utter ignorance of what medicines they were administering, and what effect they desired to obtain from such medicines. And now, the physician who seeks the intelligent coöperation of the educated nurse (of course, there are nurses who are too ignorant to be any thing but machines, destined automatically to carry out directions) will be the most successful in his practice. We do not mean that he should *consult* with his nurse; we only insist that the latter should know the nature of the drugs which she is administering, what they are designed to effect, and how to meet any untoward and unexpected, though possible symptoms which may arise in consequence of possible idiosyncrasies. Thus, the watchful and instructed nurse, seeing collapse and cyanosis attending the administration of that now common antipyretic, acetanilide, knows that this is a rare but possible result, and will at once suspend the treatment and notify the physician. Instances of a similar nature might easily be multiplied.

In their relations to their patients, both nurse and physician will do their utmost to relieve them and help them to get well, whether they be rich or poor. They may decline the service, but if they undertake the responsibility of caring for the poor man, they must feel that he has the same claim on them, to the extent of

their ability, as the rich man. This is a truth which is applicable to both hospital and private practice.

There is another point concerning which enough has not been said in text-books of nursing; it has an application to the physician as well as the nurse. Both should acquire, and the sooner the better, a delicacy and a tact both in addressing and in handling, lifting and moving patients, which are especially appreciated by those that are excessively nervous, or are suffering from fractured limbs, or rheumatic affections which make every movement painful. A brusk manner repels and depresses the nervous invalid, and carelessness and roughness of manipulation when handling broken limbs or rheumatic joints gives the impression that the doctor or nurse is unfeeling, or else clumsy, awkward and incompetent.

In hip-joint disease and in fracture of the neck of the thigh in old people, often the least movement of the trunk, as well as of the fractured or diseased bone, is torture. And yet, it may be necessary many times a day to change the position of these patients to prevent bed-sores, or to place them on the bed-pan. The doctor or nurse that shows the most tact and gentleness in the management of these truly trying cases will be likely to be most successful in the care of patients generally.

To some readers some of these statements may seem trite or mere truisms, but they are truths which will bear repetition, and they are not too trite to be dwelt on afresh from time to time.

THE SYSTEM OF CORONERS IN NEW YORK.

At a meeting of the Society of Medical Jurisprudence and State Medicine held in New York October 15, Charles Kitchell, Esq., read a paper entitled "Observations on the Law Relating to Coroners," in which he made some very severe but entirely just strictures on the present system of coroners in the State, and particularly the City of New York. He gave a sketch of the history of the laws and the evils incident to them; the present system having been brought to this country almost intact from England where it had been in operation since before the days of Queen Elizabeth. He then cited various cases many of which had come directly under his notice, where coroners had overstepped the bounds of propriety and law alike and had inquired into and taken charge of cases entirely beyond their jurisdiction. In conclusion he strongly advocated a complete revolutionizing of the system.

Those present were in entire sympathy with the reader of the paper, and, in the discussion which followed it, many important cases were cited in which the inability of this class of politicians to properly perform the duties of their position was shown in the clearest manner.

One of the most flagrant of these was that of a man, who, on the 6th of the present month, was taken to Bellevue Hospital with a fractured skull. He was properly treated by the surgeons in charge but died the following day. The coroner and his deputy then made an autopsy, with the astonishing result that a death certificate was filed to the effect that the man came to his death from carbolic acid poisoning. Another post-mortem examination was requested and held at the instance of Dr. Dunham, house-surgeon at Bellevue, at which it was conclusively shown that the cause of death was fracture of the skull. Yet at the inquest a few days afterwards the intelligent jury, in opposition to the testimony of several surgeons, decided that the man died from the effects of a dose of carbolic acid.

As an instance of the sensible questions sometimes asked by coroners, the following were stated to have been actually put to witnesses by Coroner Levy at the inquest on Bishop, the mind-reader: "How can any one tell that a post-mortem examination has been made before death?" and "Is *rigor mortis* a sure sign of death?"

As a result of the discussion, the President, Dr. Landon Carter Gray, was empowered to appoint a committee of nine, consisting of five physicians and four lawyers, to draft a bill which, after approval by the Society, shall be introduced at the next session of the Legislature. The object is to secure the repeal of the present laws relating to the subject, and substitute for them an act similar to that which has proved so efficient in Massachusetts; but the attainment of this object has been defeated in the past and is likely to meet with serious impediments in the future.

MEDICAL NOTES.

— President Ferdinand Levy, of the Board of Coroners, of New York, whose relations with the medical profession have been at times a bit strained, has expressed himself with some heat, because of the action of the Society of Medical Jurisprudence on October 15th in appointing a committee to draft a law regulating the duties of coroners. The real object of the Society of Medical Jurisprudence, he is reported as saying, is to abolish the coroner's office in order to provide some of the physicians belonging to it with places as medical examiners under the proposed new law.

— Pittsburgh, Pa, is to have a United States Marine Hospital. The plans have already been mapped out and a site is to be secured in a short time in the suburbs, most likely in the East End. The Government at present holds the deed for a plot of ground on Ellsworth Avenue, near Bellefonte Street, and this property will be sold to provide funds. It consists of a lot 300 by 400 feet, which is worth, at a low estimate, $30,000. It is proposed to sell this ground, and with the proceeds purchase two or three acres of ground worth about half the sum. The remaining $15,000, together with $7,000 lying in the Treasury at Washington, being part of the proceeds of the old Marine Hospital sale, will be used on the building.

— Dr. Lauder Brunton is about to pay a three months' visit to India, as the guest of the Nizam's Government, for the purpose of testing the results of the Hyderabad Chloroform Commission.

— The Trustees of the Jefferson Medical College, Philadelphia, Pa., have purchased four properties on Walnut Street above Tenth, and intend erecting thereon an addition to the college and hospital.

— The Supreme Court of Iowa has just rendered an important decision in the case of the State of Iowa *vs.* Sidney Mosher, appellant, from the Cherokee District Court, sustaining in the most sweeping manner the Medical Practice Act passed by the Twenty-first General Assembly; affirming the decision of Judge C. H. Lewis of the lower court. Mosher is an itinerant physician, who failed to secure from the State Board of Medical Examiners a certificate of fitness to practice, and who attempted to practice without such warrant.

— The Union Pacific hospital fund is not in a healthy condition. When the hospital was established the assessment was placed at forty cents per month for each employee. This resulted in a surplus, and in 1884 the assessment was reduced to twenty-five cents, which has been retained up to the present time. The change has not only wiped out the surplus, according to the statements of the officials, but has also incurred an additional indebtedness of $35,000. In view of this, General Manager Kimball has issued a circular announcing the restoration of the forty cent assessment.

— The Council of the University of the City of New York recently discussed the law passed last June by the Legislature providing for the preliminary education of medical students. The council were unanimously of the opinion that the law, though being right in spirit, was a blundering one for actual working, as it made a decided hardship to be encountered by many students coming to the university from foreign countries and from other States.

The council finally unanimously requested the law committee, consisting of William Allen Butler, Judge Van Brunt, and John E. Parsons, to consider the question and to formulate suggestions of such amendments as were necessary to obviate the difficulty and to report at the next meeting.

— A rather unusual bill in equity was filed in the Court of Common Pleas in Harrisburg, Penn., recently. Dr. W. M. Frost, the complainant, sets forth in the bill that he was a physician in good standing in Baltimore, where he had a good practice, and held also the chair of diseases of children in the Baltimore Polyclinic and Post-Graduate Medical College; that during last May he came to Harrisburg on a visit to his parents, and while here met Dr. John L. Seitz, of Ridge Avenue; that the latter stated he was going to remove permanently to Columbus, O., and would not return to Harrisburg to practice medicine; that the complainant entered into an agreement for the purchase of Dr. Seitz's practice; that the consideration was $50, half of which was paid in cash and the other half by a note payable in ninety days.

Dr. Frost further states that he abandoned his practice in Baltimore and came to Harrisburg in June and immediately began practicing medicine in the families that Dr. Seitz had introduced and transferred to him. Dr. Seitz returned from Columbus in August and again began the practice of his profession in the vicinity of his former office. Dr. Frost says he would not have abandoned his Baltimore practice if Seitz had not made the agreement in question and that he had suffered loss. October 14 is fixed by the court as the time for hearing the motion to continue the preliminary injunction.

BOSTON AND NEW ENGLAND.

— Several cases of small-pox have recently occurred in an Italian family at the North End, and early this week another case was discovered in the same locality. All the patients were removed to the hospital on Canterbury Street.

— Dr. Eli L. Chase, of Brockton, was assaulted recently by a Nova Scotia woman whose child he had attended for empyema. An operation which he had performed had failed to cure the child, and the mother was apparently rendered insane by her loss. Dr. Chase's injuries, though severe, are said not to be dangerous.

— It is said that the action of the Fall River Hospital trustees, in deciding to contest the will of Mrs. Sarah D. Harris, has given offence to some benevolently inclined persons, and in two instances, at least, the matter has been the cause of clauses being eliminated from wills, which provided for legacies of several thousand dollars to that institution.

— The Massachusetts State Board of Health gave a hearing recently in regard to the plan offered by the town of Marlboro for disposing of its sewage. Dr. Walcott presided; the town of Marlboro was represented by the Board of Selectmen; Commissioners Robert Grant and Thomas F. Doherty of the Boston Water Board, and City Engineer Jackson were present in the interest of Boston. The Selectmen presented a plan for disposing of the town's sewage, and City Engineer Jackson thought it would not affect Boston's water supply; but after some consideration it was decided to have the engineer make a thorough investigation.

— Dr. Bancroft, senior, of Concord, N. H., formerly superintendent of the State Insane Asylum, was recently stricken with paralysis while conducting the meeting, in Boston, of the New England Psychological Society, of which he is president; towards its close he noticed that his left side was becoming gradually disabled. With a singular fortitude under the circumstances, he continued his duties as presiding officer, rising to make some concluding remarks, though leaning heavily against the table for support, and even putting the motion to adjourn after some of his associates had assisted him into his chair. It will

be seen from this that he retained his consciousness, and, indeed, there has been no lapse of mental clearness from the beginning. We are happy to note that Dr. Bancroft has been steadily improving, and the anxiety of his friends is becoming relieved.

— The New Haven Board of Health at a recent meeting listened to the charges made by Health Officer Wright, that three physicians had failed to notify the Board of Health of cases of contagious diseases that had come under their charge. Dr. Hunt and Dr. Rawling had attended at different times the children of Joseph Capuro, who had died of diphtheria. Dr. Skiff had attended a Crosby child sick with diphtheritic croup. Dr. Lindsley of the State Board of Health, in speaking for an enforcement of the ordinance that was violated, said that for more than a year he has been working to establish proper health regulations in the towns and cities throughout the State. He had just come from Stratford. Diphtheria had raged in the Home for Children, fifteen out of thirty had been afflicted, but by isolation the spread had been prevented. The larger towns well observe the regulations. In contagious diseases three things are necessary to prevent spread of the disease, notification, isolation and disinfection. Notification should be as prompt as a fire alarm. He had called at the meeting for the express purpose of urging the enforcement of the law. Physicians should be prosecuted for violating the ordinances.

A motion was passed to report the violations of the ordinance by Dr. Amos Hunt and Dr. Charles Rawling in the case of the Capuro children, and by Dr. Paul Skiff in the case at Union Street.

NEW YORK.

ELECTRICAL WIRES.

— The city has been in darkness at night for the past week, so far as the electric street lights were concerned. Immediately after the order for the removal of all dangerous wires was issued by the Board of Electrical Control, at the instance of the Mayor, the companies supplying these lights secured injunctions preventing any interference with their wires, and since then they have been engaged in making a thorough overhauling of the latter, so as to make them as safe as possible; all currents in the meanwhile being shut off. Under these circumstances it was supposed that the Board of Health might perhaps have the power to remove any wires dangerous to life; but the corporation counsel, being consulted on this point, announced it as his opinion that the Board of Electrical Control has exclusive power in the premises. At the same time, the Health Board has sent a report to Mayor Grant recommending that continuous currents above 700 volts, and alternating currents above 250 volts, be forbidden until better means of safety have been provided. The Park Commissioners have also passed a resolution which will have the effect of banishing the high-tension wires if the injunctions now in force are dissolved.

Miscellany.

WAKEFULNESS IN NEURASTHENIA.

A wide range of opinion on the management of this condition found expression at a recent meeting of the Epidemiological Association; and the *New York Medical Journal* thus sums up the evidence:

"The use of drugs, with the exception of sulphonal, perhaps, did not find much favor with the members. Some of them had found that their patients of this class slept when they were at the seaside, while others recommended the Colorado atmosphere. Some patients had been found to be able to sleep at sea, but not on land. The weight of evidence seemed to favor the resort to mountain air for patients who were anæmic, with a presumption in favor of sea air for those who were plethoric. Dr. Solly, of Colorado Springs, has found that a large proportion of anæmic neurasthenics find sleep on the mountain heights, but this cannot be said of the entire class. It is not improbable that other conditions besides those of climate enter into the account where the patient travels from our Eastern cities to the Rocky Mountains in pursuit of sleep. The jaded matron leaves the worries of the household, and the business man, broken down by the rush of daily cares, finds many things changed besides the atmosphere among the far Western altitudes. Still, as a rule, the climate gets all the praise, when an improvement takes place. Business men from the East report a larger percentage of recoveries than the matrons, however, probably because fewer of their anxieties can follow them. Improvement in the assimilation of food, it should not be forgotten, goes a great way toward sleep-production in those who are affected with derangement of the nervous system; and this is one of the frequent accompaniments of any change of scene and environment. Not that there is always any marked increase of appetite or in the amount of food taken, but there is an appropriation of the food by the nervous centres, to their consequent strengthening. It is often a prominent feature in neurasthenia that the food may be taken in and digested fairly well, but stops short somewhere in its distribution to the tissues and is largely wasted. Ordinarily, when this waste ceases there is a corresponding abatement of wakefulness and other neurotic symptoms."

MEDICAL RESPONSIBILITY.

Big Bob Sattoo, the "tenanimous" or medicine man of the Swinomish Indians in Washington Ter., was lately killed by four Indians, a committee of the tribe appointed for that purpose. His offense was that, while responsible, by virtue of his office, for the health of the tribe, he had permitted, or had not prevented, an epidemic which had prevailed among them for some time. The agent had notice of the purpose to dispatch Big Bob for his delinquency, but, not believing that the intention would be carried into effect, took no measures to protect him. The men who killed the tenanimous have been arrested and will be tried for murder at Seattle. This affair recalls to the *Worcester Spy* an earlier case like it in some respects, in which Judge Roger S. Greene, then a justice of the Supreme Court of the territory, made a

precedent, which may be of some service to the homicides now awaiting trial. In that case a medicine man, who had a grudge against a member of his tribe, openly boasted that he had made this man's wife sick and would cause her death. The woman was very ill and seemed likely to die. The husband begged the medicine man to spare her, but he was obdurate and exulted in his revenge, declaring that the woman must die, and that nothing could induce him to relinquish his purpose of putting her to death. The husband then killed the medicine man and was tried for murder by Judge Greene and a jury. The facts were easily proved, and Judge Greene charged the jury in effect that if the husband believed that the medicine man could and did cause his wife's sickness, and could and would cause her death, and that the only way to save her life was to kill the man who was killing her, and if the evidence proved this belief to the satisfaction of the jury, and if the jury were further convinced that this belief was reasonable for the defendant, in view of his condition and associations, and the common opinion of his people, then the homicide was justifiable, as done in defense of his wife, whom he was bound to protect, and the verdict must be "not guilty." Under these instructions the man was acquitted. In the present case it does not appear that the medicine man avowed his responsibility for the epidemic prevailing among his people, or that he was even suspected of malice, so that the precedent does not precisely apply. Big Bob indeed seems to have been killed not in defence, but as a punishment for neglect of duty, and if it should so appear on the trial, the case would be clearly distinguishable in principle from the former. Our contemporary thinks that if doctors in civilized communities were held to so strict responsibility as these Indians exact of their medicine man, their profession would not probably be crowded.

IS FRUIT A MEDIUM FOR CARRYING INFECTION?

This interesting and important question came up before one of the English courts recently, according to a report in the *Lancet*. It involved the proper interpretation of Section 126 of the Public Health Act (1875). The section imposes a penalty on exposure of infected persons and things, such penalty being incurred by any person who "gives, lends, sells, transmits, or exposes, without previous disinfection, any bedding, clothing, rags, or other things which have been exposed to infection"; and in pursuance of this provision the rural sanitary authority of Maidstone summoned a parent whose children were alleged, whilst affected with scarlet fever in its desquamative stage, to have been engaged in an orchard gathering currants, which were subsequently transmitted to London. Mr. Butterfield was present as medical witness on behalf of the authority, but the details of the case were not gone into, on the ground, taken by the magistrates, that it was very doubtful whether fruit was so far *ejusdem generis* with the other articles named in the section as to be properly included in the term "other things." On behalf of the sanitary authority it was contended that this term included everything in the "wide, wide world" that could be shown to be capable of conveying the infection; but the magistrates evidently felt that, even with the aid of expert medical evidence, they could not undertake to decide whether fruit carries infection or not; and although they showed their sympathy with the sanitary authority by refusing to allow the defendant's costs and by stating that cases of this kind should be brought under the notice of the Legislature, yet they decided that they had no jurisdiction.

The point deserves to be carefully borne in mind by medical officers of health and others in cases of scarlatina or other diseases having an obscure origin. The *Lancet* recalls one instance in which the matter has come under any detailed investigation, and in the brief account of it given in the *Practitioner* (July, 1883), it is admitted that whilst "the employment as strawberry gatherers of persons in the desquamative stage of scarlet fever" came under suspicion, yet the case was complicated by the circumstance that those who consumed the strawberries and who subsequently contracted scarlatina had mixed the fruit with a cream which could not be exonerated from a share in the suspicion as to the source of the infection.

It is well-known that Italian fruit peddlers in our large cities on this side of the water are in the habit of storing fruit, for instance, hanging bunches of bananas to ripen in the small rooms occupied by them as domiciles, and cases have been known when such fruit has been peddled direct from a room in which were lying one or more persons, dead or dying from diphtheria. The subject is one deserving investigation and action by health authorities.

SALOL IN GASTRO-INTESTINAL DERANGEMENTS OF CHILDHOOD.

Dr. Carr writes on the above subject in the *Archives of Pediatrics*, for September. In his own experience the drug was used in all the disorders of the stomach and intestine common to children, but with the most success in the cases of acute gastro-enteritis caused by improper diet or from temperature changes.

The dose and the mode of administration vary somewhat in different cases; the preference being to give the salol alone unless there is some particular reason for combining it with another agent. If the symptoms are those of acute gastro-enteritis with the vomiting of milk, or of other food, and the movements from the bowels are ill-smelling, loose, and quite frequent, the administration of salol, while maintaining perfect rest of the stomach and bowels, will be all that is required. Should the vomited material contain bile and the stools have a lumpy, clay-like appearance or be streaked with bile, the addition of a small quantity of calomel or of mercury and chalk will bring about a quicker relief. This may be explained, partially, by the effect of the mercurial on the obstructed ducts of the liver and pancreas.

When the movements of the bowels become frequent and the discharges serous, the effect of the salol, besides the neutralization of the disagreeable odor, seems to be almost negative. It is seldom that the watery motions are lessened by the salol unless given in combination with opium or bismuth.

In dysentery and severe colitis salol exerts very little control on the tenesmus and bloody passages.

The dose of salol will depend much upon the requirements of the case.

For children under six months one-half grain every

two hours for three or four doses will be found sufficient; between the ages of six and eighteen months half a grain to a grain and a half; at two years a grain and a half to two grains will usually be efficacious. The drug is best dispensed combined with some inert powder. Children take it readily if it is placed on the tongue or in a spoon. It never, so far as the writer is aware, causes toxic symptoms or any of the irritation of salicylic acid.

Abstinence from food that would continue the irritation of the stomach is of the same importance in the employment of salol as in the treatment of all disorders of digestion in children.

The conclusions drawn after the use of salol indicate that it is an easily administered, safe drug in the first stage of acute gastro-enteritis in children, and in the more chronic forms of entero-colitis, accompanied by slimy, bad-smelling evacuations. In the acute condition it is necessary to keep the stomach at rest and administer two or three doses of salol within five or six hours. For the more chronic state of catarrh, it is best given in somewhat larger doses before meals. In frequent serous discharges and in colitis the salol does not produce the same good results as in the cases mentioned above, and its effect is uncertain, not being so rapid or so sure as an opiate.

In dysenteric disorders it cannot be relied on.

It seems, then, that salol acts best in morbid conditions due to fermentation and decomposition in the stomach and upper bowel, and that it diminishes in power as it passes through the large intestine.

MEDICAL SUCCESS IN THE FACE OF DIFFICULTIES.

SIR ANDREW CLARK, from the summit of English professional success, has been reviewing the way which led him; and his reflections, as contained in an address made by him on the occasion of the presentation to him of his portrait by the medical and surgical staff of the London Hospital a few weeks since, cannot fail of interest for all medical readers.

He was born in Scotland, and received his early education at Aberdeen. He went to London at the end of the year 1853 to study pathology, but with no intention whatever of engaging in the practice of medicine. He says he had never seen his parents, for they died in his infancy; he had never lived under the roof of a relative; he had only one acquaintance; he had no introductions, and he was in such poor health that, according to a physician whom he consulted at the time, his expectation of life was only one year. On the other hand, he tells us that he had some advantages by way of counterbalance. These were a small patrimony, large love of work, and perfect self-dependence, which prevented him from ever asking favors of any man. "I had the habit of dealing with every day of my life as if it were my whole life," he says. "I was contented and happy over what the day brought me. I had no ambition of any kind, and I hated schemes and intrigues."

His first employment at the London Hospital was in the museum of that institution. After he had been there a while a vacancy occurred on the staff, and he became a candidate for the appointment, being warmly supported by his colleagues and the medical students. There were other candidates for the place and the contest was a severe one. "It was the greatest fight," says Sir Andrew Clark, "that had ever been fought at a London hospital, and I well remember when the fight was over how one of the opposing parties said: 'Poor Scotch beggar, let him have it; he cannot by any possibility have six months to live.' But the race is not to the swift, nor the battle to the strong; I am still living and working among you to-day, the sole representative of the staff of thirty-five years ago."

After frankly saying that he never expected to achieve the material success he has met with, Sir Andrew Clark said he presumed some of the students present would like to know from him what conditions he thought were essential to make a man a successful physician. These he gave as follows:

"Firstly, I believe that every man's success is within himself, and must come out of himself. No true, abiding, and just success can come to any man in any other way. Secondly, a man must be seriously in earnest. He must act with singleness of heart and purpose; he must do with all his might and with all his concentration of thought the one thing at the one time which he is called upon to do. And if some of my young friends should say here, 'I cannot do that — I cannot love work,' then I answer that there is a certain remedy, and it is work. Work in spite of yourself, and make the habit of work, and when the habit of work is formed it will be transfigured into the love of work; and at last you will not only abhor idleness but you will have no happiness out of the work which then you are constrained from love to do. Thirdly, the man must be charitable, not censorious — self-effacing, not self-seeking; and he must try at once to think and to do the best for his rivals and antagonists that can be done. Fourthly, the man must believe that labor is life, that successful labor is life and gladness, and that successful labor, with high aims and just objects, will bring to him the fullest, truest, and happiest life that can be lived upon the earth."

Correspondence.

NON-ANTISEPTIC SURGERY.

BOSTON, October 14, 1889.

MR. EDITOR, — The *Journal de Médecine et de Chirurgie Pratiques*, for September, has an abstract of a full Statistical Report to the Surgical Society at Paris of the surgical operations performed at the hospital St. Louis during the two years, from May, 1887, to May, 1889, by Dr. Lucas Championnière, surgeon in charge for that time.

Omitting laparotomies for abdominal tumors, Dr. Championnière found and gave complete analyses of 463 important cases (*les plus grosses opérations*), 321 in men, 142 in women. There were no deaths, except of two women, clearly due to causes other than the operations.

All these operations were performed in sheds (*baraques*) which had been used for the previous seven years for small-pox cases, and were fit only to be burned, as eminent hygienic colleagues declared to him.

Dr. Championnière, italicizing his words, says (literally translated) Thus have I given again a demonstration of this truth that, *splendor of means and luxury of antiseptic material signify little, while experience and the surgeon's faith in the antiseptic method are the whole of it.*

This, he adds, is a fact of first importance, for we are constrained more than ever to a squandering waste in con-

structions and hospital arrangements that undermines resources which more wisely employed would avail much.

"All my operations," he says, "laparotomies as well as others, were performed in the same room, heated by a stove, not having any apparatus for sterilization or for irrigation, and without glazed shelves or tablets. The operating table was of wood, with a hair mattress. No matter what the operation, the public entered the room at will, even to crowding it."

In spite of these unfavorable appearances, not only was there no mortality, but, what is vastly more to the point, there was a complete absence of any suppuration. This may be an easy thing to say, but it can be imagined also that in a service of 68 beds there would have been a practicable impossibility in performing so many capital operations had there been suppuration.

After elaborate analyses and tables, and an explanation of the deaths from laparotomy, due apparently in the main to the hopeless nature of the cases at the start, Dr. Championnière concludes his paper with the statement that, "in this space of two years, in my service mortality has been absolutely nothing (*absolument nulle*), and that, too, in a service of extreme activity during the time, and the performance of 595 operations mostly severe or capital in character."

This report, with its statistics, merits, it has been well said, attention in many points of view, offering, as it does, proportionate success that no other surgeon has ever surpassed. And it may be added further that it thus appears evident that a septicæmic wave or a suppurative cycle has not prevailed at Paris of late; as it has not been present in other regions now boastful of success, and an ability to stay the plague, — after the epidemic influence has reached its height or has effectively passed away. When, however, such or a similar morbid tendency returns, as it will at some future time in the order of things here below, human inventive powers will be put again once more to a new trial. Meanwhile, a careful consideration of Dr. Championnière's report and his cases is respectfully recommended to the readers of papers on antiseptic surgery at the last annual meeting of the Massachusetts Medical Society.

Very truly yours, IVAN.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 12, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	573	197	17.82	18.36	7.74	1.44	4.68
Philadelphia	1,040,245	331	105	14.20	11.40	2.10	—	4.80
Chicago	830,000	—	—	—	—	—	—	—
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	141	49	11.30	18.46	3.55	.71	4.26
St. Louis	450,000	146	59	17.00	10.20	3.40	2.12	6.80
Boston	413,567	205	71	12 25	7.35	5.88	2.45	5.39
New Orleans	250,000	113	28	11.57	21.26	6.23	—	.89
Cincinnati	225,000	89	—	23.52	11.20	2.24	4.48	15.68
Washington	225,000	90	24	23.32	13.32	4.44	5.55	13.32
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	16	5	12.50	12.50	12.50	—	—
Charleston	60,145	28	7	14.28	14.28	—	7.14	3.57
Portland	40,000	2	0	—	—	—	—	—
Worcester	78,292	25	12	20.00	8.00	4.00	4.00	8.00
Lowell	71,518	35	16	25.74	17.16	17.16	—	8.58
Cambridge	65,552	29	5	17.25	17.25	3.45	6.90	6.90
Fall River	62,647	—	—	—	—	—	—	—
Lynn	53,334	11	—	9.05	9.09	9.09	—	—
Springfield	40,731	11	4	18 18	—	—	9.09	9.09
Lawrence	40,619	21	12	14.28	—	4.76	4.76	4.76
New Bedford	37,253	17	5	17.64	11.76	5.88	11.76	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	11	4	18.18	—	9.09	—	—
Salem	29,011	13	7	23.07	15.38	7.69	—	15.38
Brockton	28,813	7	3	14.28	14.28	—	—	—
Chelsea	28,167	7	2	—	28.56	—	—	—
Haverhill	26,058	8	2	—	—	—	—	—
Taunton	25,170	—	—	—	—	—	—	—
Gloucester	24,263	9	6	11.11	—	—	—	—
Newton	21,553	8	3	25.00	12.50	12.50	—	12.50
Malden	19,774	8	4	—	—	—	—	—
Fitchburg	17,534	5	0	—	20.00	—	—	—
Waltham	17,332	8	2	12.50	—	—	—	—
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	6	1	—	—	—	—	—
Quincy	13,728	7	2	14.28	—	—	14.28	—

Deaths reported 1,980: under five years of age 635; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 316, acute lung diseases 194, consumption 284, diphtheria and croup 110, diarrhœal diseases 101, typhoid fever 36, scarlet fever 26, malarial fever 22, whooping-cough 13, cerebro-spinal meningitis 6, measles 1.

From scarlet fever, Philadelphia 12, St. Louis 6, New York 4, Baltimore 2, Boston and Cincinnati 1 each. From malarial fevers, New York 9, Philadelphia and New Orleans 5 each. Baltimore 2, Charleston 1. From whooping-cough, New York 7, Philadelphia and Boston 3 each. From cerebro-spinal meningitis, Philadelphia, Worcester, Somerville, Brockton, Gloucester and Waltham 1 each. From measles, New York 1.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,555,406, for the week ending September 28th, the death-rate was 17.2: deaths reported 3,285: infants under one year of age 1,029; acute diseases of the respiratory organs (London) 189, diarrhœa 258, scarlet fever 67, diphtheria 60, whooping-cough 60, fever 56, measles 28.

The death-rates ranged from 7.9 in Huddersfield to 32.7 in Plymouth: Birmingham 15.8, Bradford 15.3, Hull 20.1, Leeds 18.5, Leicester 15.9, Liverpool 18.7, London 16.3, Manchester 24.5, Nottingham 12.5, Sheffield 19.5, Sunderland 27.6.

In Edinburgh 16.6, Glasgow 20.7, Dublin 31.5.

The meteorological record for the week ending Oct. 12, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending Saturday, Oct. 12, 1889.	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.		Velocity of Wind.		State of Weather.[1]		Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, .. 6	29.98	56.0	61.0	50.0	88	91	90.0	S.E.	S.	24	6	O.	O.	0.40	T.
Monday, .. 7	29.75	52.0	58.0	47.0	94	79	86.0	N.W.	W.	12	12	O.	C.	7.45	.63
Tuesday, .. 8	29.97	46.0	52.0	39.0	70	64	67.0	W.	W.	10	12	C.	C.	.0	.0
Wednes. .. 9	29.94	50.0	59.0	40.0	61	63	62.0	S.W.	S.W.	16	6	C.	O.	.0	.0
Thursday, 10	29.86	50.0	53.0	47.0	66	59	62.0	S.W.	N.W.	13	9	O.	C.	0.20	T.
Friday, .. 11	29.99	48.0	58.0	38.0	67	60	64.0	S.W.	S.	14	5	C.	C.	.0	.0
Saturday, 12	30.05	48.0	53.	42.9	79	84	82.0	0.	N.E.	0	9	C.	R.	1.00	T.
Mean for Week.															

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 12, 1889, TO OCTOBER 18, 1889.

STEINMETZ, WM. R., captain and assistant surgeon U. S. Army. Ordered for examination for promotion. Par. 3, S. O. 236, A. G. O., October 10, 1889.

BRECHEMIN, LOUIS, captain and assistant surgeon U. S. Army. Granted leave of absence for one month. Par. 1, S. O. 98, Headquarters Department of the Platte, October 12, 1889.

ADAIR, GEORGE W., captain and assistant surgeon U. S. Army. Leave of absence extended for fifteen days. Par. 15, S. O. 238, A. G. O., October 12, 1889.

HAVARD, VALERY, captain and assistant surgeon U. S. Army. Leave of absence extended one month. Par. 3, S. O. No. 240, A. G. O., October 15, 1889.

BRECHEMIN, LOUIS, captain and assistant surgeon U. S. Army. Relieved from duty at Fort Laramie, Wyoming Ty., and ordered to Fort Apache, Arizona Ty. Par. 2, S. O. 241, A. G. O., October 16, 1889.

BRADLEY, ALFRED E., first lieutenant and assistant surgeon U. S. Army. Relieved from duty at David's Island, N. Y. H., and ordered to Fort Omaha, Neb. Par. 2, S. O. 241, A. G. O., October 16, 1889.

HARRIS, H. S. T., first lieutenant and assistant surgeon of U. S. Army. Relieved from duty at San Antonio, Texas, and ordered to Fort Keogh, Montana. Par. 2, S. O. 241, A. G. O., October 16, 1889.

EVERTS, EDWARD, captain and assistant surgeon U. S. Army. Relieved from duty at Fort Apache, Arizona, and ordered to David's Island, N. Y. H. Par. 2, S. O. 241, A. G. O., October 16, 1889.

LORING, L. Y., major and surgeon U. S Army. Sick leave extended two months on surgeon's certificate of disability. Par. 16, S. O. 241, A. G. O., October 16, 1889.

HEGER, ANTHONY, lieutenant colonel and surgeon U. S. Army. Relieved from duty in Division of the Atlantic, and ordered for duty as attending surgeon, Washington, D. C. Par. 2, S. O. No. 241, A. G. O., October 16, 1889.

O'REILLY, ROBERT M., major and surgeon U. S. Army. Granted leave of absence for six months with permission to leave the United States. Par. 3, S. O. 241, A. G. O., October 16, 1889.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING OCTOBER 19, 1889.

BERTOLETTE, D. W., surgeon, detached from the "Franklin," and ordered to duty at Naval Hospital, Philadelphia.

BUSH, N. H., passed assistant surgeon, detached from Naval Hospital, Philadelphia, and ordered to the "Saratoga."

HIBBETT, C. T, passed assistant surgeon, ordered to the "Franklin."

SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. — A Regular Meeting of the Society will be held Monday, October 28, 1889, at 8 P. M., at 19 Boylston Place. Reader, Dr. W. F. Whitney. Subject: Fatty Degeneration of the Diaphragm; a Neglected Death-Factor. Dr. J. J. Putnam will read: Remarks on the Frequency with which Lead is found in the Urine, with statistics; and on the Occurrence of Lead in the Drinking-water.

F. B. HARRINGTON, M.D., *Secretary.*

NORFOLK DISTRICT MEDICAL SOCIETY. — A Stated Meeting will be held at Rockland Hall, 2343 Washington Street, Roxbury, Tuesday, October 29th, at 2 P. M. The Board of Censors will meet at the same time and place. The examination of candidates will occur one week afterward, on Tuesday, November 5th, at 7 P. M., at 254 Warren Street. Order of Business: Reading of Records, Report of Committees, Election of Nominating Committee, Election of Secretary, Incidental Business, Communications: Some Notes upon the Final Stages of Diabetes, by D. D. Gilbert, M.D.

S. ALLEN POTTER, M.D., *Secretary.*

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — The Section for Clinical Medicine, Pathology and Hygiene will meet at Huntington Hall, Massachusetts Institute of Technology, on Wednesday, October 30th, at 7.30 o'clock. Prof. F. W. Putnam, of Harvard University, will give a *resumé* of his researches in the Archæology of America, which will be illustrated by lantern pictures, and by specimens from the Peabody Museum of American Archæology and Ethnology at Cambridge. You are cordially invited to be present.

ALBERT N. BLODGETT, 138 Boylston Street, *Secretary.*
A. L. MASON, M.D., *Chairman.*

SUFFOLK DISTRICT MEDICAL SOCIETY. — There will be a Stated Meeting on Saturday, October 26, 1889, at 8 P. M., at 19 Boylston Place. Papers: Dr. C. F. Folsom, The Treatment of Typhoid Fever; Dr. A. Post, Cases of Popliteal Aneurism; Dr. G. W. Gay, A Case of Gastrostomy. Choice of a committee of five to prepare a list of candidates for officers of the Society. Supper after the meeting. Members are requested to notify the Secretary of any change of address.

HERMAN F. VICKERY, M.D., *Secretary.*

CORRECTION. — BOSTON DISPENSARY.

The names of Drs. Thomas F. Sherman, and James S. Howe, were omitted in the notice of this institution. They should have appeared in the list of the medical staff at the central office.

OBITUARY. LEMUEL W. BRIGGS, M.D.

Dr. Lemuel Williams Briggs of Bristol, R. I., one of Bristol's oldest citizens, died October 16th. He was born in Bristol May 21, 1811. After completing his medical studies he practiced in Middleboro, Mass., and returned to Bristol on the death of his father, and succeeded to his practice nearly fifty years ago. Fifty-six years ago he was married to Miss Elizabeth Wordsworth of Castleton, Vt., who survives him. For some little time past Dr. Briggs has attended mostly to office practice, making only occasional visits to his old patients. He was a valued member of the Rhode Island State Medical Society, and a communicant of St. Michael's Church for many years. As a citizen, Dr. Briggs did not aspire to any office in the gift of the people. He was upright and honest in all his dealings, and always took a lively interest in all that pertained to the improvement and the adornment of his native town.

OBITUARY. PHILLIPPE RICORD, M.D.

This prominent physician and syphilographer died in Paris, October 22d, at a great age. He was of American birth, having been born in Baltimore December 23, 1800. He was a physician to Napoleon III., and held many positions of professional honor.

Original Articles.

ANTIPYRETICS.[1]

BY EDWARD N. WHITTIER, M.D., OF BOSTON.
Visiting Physician to the Massachusetts General Hospital.

THE mean bodily temperature of warm-blooded animals results from the correllation of three factors, heat production, heat dissipation and heat regulation. It is an expression of the balance maintained between the heat produced in the body and the heat lost from the body, through the influence of a regulative process; it is an equilibrium of temperature, or state, in which the heat produced by chemical changes chiefly in the muscular envelopes of the skeleton and in grandular structures, has a counterpoise in the heat discharged by the skin and respiratory organs, in the process of evaporation, conduction and radiation.

The "constant bodily temperature" of health is the marvellous maintenance of an almost uniform temperature by the mechanisms which coördinate the loss with the production of heat.

Temperature regulation by variations in heat loss, and temperature regulation by variations in heat production have a common source, in a thermo-taxic mechanism which not only controls normal temperature, but also explains the processes by which abnormal temperatures prevail in disease, for fever of necessity implies a disorder of the thermo-taxic mechanism.

What is fever? How defined, what its nature, its pathology, its mechanism, its etiology; what are the various theories bearing upon this subject, and where are the clinical aspects of the fever question to-day?

These and other topics of kindred significance have recently formed the subjects of papers of great value, representing the most advanced opinions and the best conclusions based upon original research and recent literature.

Kindly permit me to preface the subject assigned me with a synopsis of the views relative to fever which are entitled to representation here; for there can be no intelligent and profitable discussion of the subject of Antipyresis which is not based upon a fair understanding and agreement as to the significance of the term Pyresis.

No one to-day rests his definition of fever on the single symptom of elevation of temperature, nor does any one fail to recognize fever as a symptom complex or group of symptoms, in which disordered heat occupies the dominant position and is necessarily the essential feature; but associated with this and so intimately blended with it as to be deservedly regarded as part and parcel of the process known as fever are the other symptoms of the group — disordered circulatory and respiratory functions, loss of muscular power, digestive derangements, changes in glandular secretions, notably of the kidneys, impaired nutrition, tissue changes, loss in weight, and symptoms referable to the nervous system.

Elevation of temperature is the essential and predominating factor in fever, and the questions as to the cause of this abnormal rise are various and vexing, and are by no manner of means as yet adjusted, although during the past two or three years greater advances have been made than ever before towards the solution of the problem.

The combustion theory, the hæmic, the zymotic, the traumatic, the chemical, the nervous theory — each has its advocates and its zealous defenders; but the weight of evidence and of influence, the teachings of physiology and of pathology, influences powerful in moulding opinion, are in the direction of assigning to the nervous theory the highest position as an exponent of the method by which increased production of heat becomes the dominant element or symptom in fever.

It has been said, and well said, that the nervous theory of fever rests upon the tripod of heat regulation, heat discharge and heat production, and that the normal as well as abnormal temperatures can be explained by the predominance in varying degree of each of these processes.

Dr. McAlister, in his lectures on the nature of fever, argues that the doctrine of evolution as applied by Hughlings Jackson to the motor functions can be applied with equal directness and force to the heat producing functions, that the element in thermal mechanism which is lowest, the heat discharging, is the earliest and best organized; this is the vaso-motor apparatus long since demonstrated to control the circulation of blood in the superficial part of the body, thereby in great measure controlling the discharge of heat; the other factors in the process of heat discharging, respiratory and sudorific, are equally well under the control of the nervous system.

Heat producing, the element of thermal mechanism which is second in the order of development, is in fair way of definite localization. This is certainly an inhibitory centre which depresses or controls the production of heat, probably by acting on the trophic cells of the gray matter of the spinal cord (H. C. Wood). It is also part of the logistics of heat mechanism that there are cerebro-spinal centres which when stimulated excite heat production.

The third element, the most sensitive, the most unstable and the last in the life of the individual to reach its point of adjustment, is thermo-taxis, or heat regulation. No one has yet localized it, no one has more than described it as least organized, least automatic, least and last developed. It coördinates heat dissipation with heat production. Thermal ataxia implies irregularity of temperature and that alone.

Thermotaxic and thermogenic disorders when coexisting, imply ordinary fever, while disorder of all, heat regulation, heat production and heat dissipation, implies a dangerous increase of heat, a steadily rising temperature, a general hyperpyrexia of extreme gravity.[2]

Puncture of the caudate nucleus and injury to the spinal cord in the upper cervical region have each been conclusively demonstrated to be causative of increased heat production and elevation of temperature and these experiments on animals have induced all the essential conditions of fever, namely, increased heat production, increased heat loss, increased absorption of oxygen, increased formation of water and carbonic acid and large increase in formation and elimination of urea, with corresponding changes in pulse and temperature curves. McAlister and Welch, McAlister propounding, Welch seconding, discuss the question of the origin of the heat producing phenomena in the

[1] Read at the annual meeting of the Massachusetts Medical Society, June 11, 1889.

The author desires to acknowledge the valuable assistance rendered in the preparation of this paper by Dr. E. M. Greene, Pathologist Boston Dispensary and Carney Hospital.

[2] J. C. Wilson: General Pathology of Fever.

existence of nerves whose chief function is on the one hand the disintegration, on the other hand the restoration of muscles, basing these conclusions largely on the results of the researches of Gaskell, whose conclusions were that inhibition, for instance, of the heart's muscle, is restorative through the influence of the pneumogastric, and that the accelerator nerves of the heart induce opposite or destructive changes, and that the muscular substance when disintegrated gives rise to heat and mechanical work.

"If it be found (Welch) that similar inhibitory and accelerator nerves preside over the chemical changes in voluntary muscles and other tissues of the body, then Gaskell's induction as to the existence of thermo-excitory and thermo-inhibitory nerves ranks as one of the most profound and important in modern physiology."

According to Maclagan, the thermal nervous apparatus consists of: — (1) tissues in which heat is formed; (2) heat eliminating surface; (3) a thermic centre, controlling heat; (4) nerves from the central controlling power to the heat forming parts of the body; (5) nerves connecting the heat controlling centre with the parts involved in heat elimination.

So long as all these parts of the thermal apparatus are in harmonious operation, normal temperature prevails, but interruption of this harmony causes the temperature to rise or fall.

Maclagan does not regard as antagonistic the two theories of fever which have secured the strongest foot-hold, namely, the combustion, and the nervous, theories; he regards each complete in itself, that the combustion theory, "according to which the rise of temperature results from increased activity of the processes by which heat is naturally formed in the body," is no way inconsistent with the neurotic theory, according to which the rise in temperature is due to impairment of that inhibitory force by which heat production is restrained and kept within normal limits.

Austin Flint embodies his views in three propositions: —

(1) It is probable that the original cause of most if not of all the essential fever is a micro-organism, different in character in different forms of fever.

(This conclusion is based upon recent advances in bacteriology.)

(2) Restricting the definition of fever to the expression, "an abnormal elevation in the general temperature of the body," he regards the pyrexia as due to oxidation of certain constituents of the tissues, due to micro-organisms in the blood; that this oxidation results in increased waste of tissue and is represented by an excess of carbonic acid and urea excreted.

The part which the formation of water within the body plays in the production of heat, is either suppressed or is greatly diminished in prominence.

(3) Fever produces abnormal consumption of fat with parenchymatous degenerations; and finally he defines an essential fever "as an excessive production of heat in the body induced by a special morbific agent or agents and due to excessive oxidation, with destruction of the tissues of the body and either a suppression or a considerable diminution in the production of water."

Prof. H. C. Wood summarizes our knowledge of fever in three propositions:

(1) Fever is a disturbance of calorification in which through the nervous system heat dissipation and heat production are both affected. If there be a fever which is produced by the direct action of a poison independently of the nervous system, we have at present no proof of its existence.

(2) Heat production is regulated by a nervous apparatus of which our knowledge is still imperfect. There is certainly an inhibitory centre which depresses or controls the production of heat. It does this probably by acting on the trophic cells of the gray matter of the spinal cord. It is also probable that there is a centre which, when excited, increases tissue change, but its existence has not been absolutely proven.

(3) Heat dissipation is regulated through the nervous system, so that vaso-motor paralysis is followed by an enormous loss of animal heat, and under unfavorable conditions by death from cold.

The views of the German school are thus defined in a paper recently published:

Bacteriological investigations have resulted in great advances in our knowledge of the etiological factors of disease. Ziemssen states that we now believe that the effects of the action of harmful agents on an organ or group of organs or on the entire body, are the necessary consequences of action on the cell, and the consequent changes in the physiological function of the tissues.

The bacteriological theory of the need and usefulness, in all infectious diseases, of a high temperature, has had many and able advocates, who have argued that the febrile movement was a proper expression of the resistance developed in the patient, reactionary in its influence and results, and destructive to the micro-organisms productive of the fever.

Welch, in his "Lectures on the Pathology of Fever," says: — "There is so much which speaks in favor of this doctrine. The real enemy in most fevers is the noxious substance which invades the body, and there is nothing to prevent us from believing that fever is the weapon employed by nature to combat the assaults of this enemy. The doctrine of evolution indicates that a process which characterizes the reaction of all warm-blooded animals against the invasion of a host of harmful substances, has not been developed to such an extent, and is not retained with such pertinacity without subserving some useful purpose. The supposition seems more probable that the increased oxidation of fever aids in the destruction of the injurious substance. According to this the fever-producing agents light the fire which consumes them. It is not incompatible with this conception of fever to suppose that the fire may be injurious to the patient and require the controlling hand of the physician."

In opposition to this view of the salutary influence of fever, are the results in febrile infectious diseases, wherein treatment not only abates the fever but also the infection. Mention may be made of the periodical fevers, of rheumatism, etc.; in these diseases specific remedies induce desired results by reduction of temperature and diminution of infectious material. And by analogy and in those infectious diseases wherein there are no specific remedies, experience guides us in the employment of methods by which fever and the morbid processes due to infection are reduced to the minimum of harmful influence.

It is upon this broad platform of clinical experience, upon this firm and enduring basis, that the doctrine of antipyresis rests, and the questions propounded in the laboratory of experimental pathology and bacteriology

find their answers in the results of observations at the bedside.

The change to the present and prevailing opinion concerning the nature of fever (for the neurotic theory is the prevailing doctrine) finds its parallel in the change of opinion in relation to the harmful effects of high temperature.

Careful analysis of the transactions of the first and fourth German Congresses of Internal Medicine cannot fail to impress one with the strength of the position occupied by German clinicians and physicians, in the opinion, that high temperature and that alone cannot longer be considered the dangerous element in fever. The recent review of the pathology of fever by Professor Welch of Johns Hopkins University, leads up to the conclusion, confessedly an advanced position, "that even in fevers, such as typhoid and pneumonia, when the height of the temperature is undoubtedly a most important index of the severity of the disease, there exists no such parallelism between the temperature and the nature and severity of the other symptoms as we should expect if these symptoms were caused by the increased heat of the body, and both clinical and experimental observations strongly support the view, now widely accepted, that the disturbances of the sensorium which constitute so prominent a part of the group of so-called typhoid symptoms, are dependent upon infection," or upon the poisonous substances produced in the body by the pathogenic micro-organisms rather than by high temperature.

The various opinions expressed are well condensed by Baruch, in his admirable article on the treatment of typhoid fever: — "Since it may now be regarded as an established fact that high temperature, minus infection, does not produce those serious degenerations formerly ascribed to it, we must seek in the infection process and the ptomaine intoxication those deleterious effects upon the vital organs which undermine the system and eventually cause death."

I recognize distinctly, and all the more forcibly from a somewhat extended examination of the literature of the subject, the great obstacles in the way of a satisfactory exposition of the present status of antipyresis and antipyretics. I have endeavored to place before you briefly, necessarily so, by reason of the limitations placed by custom upon papers prepared for these occasions, some essential facts; but without much greater elaboration of the subject I cannot otherwise than rest here in my definition of fever, and ask your attention in the remaining portion of this paper to the practical application of the subject assigned me.

Antipyresis includes all measures designed to reduce temperature and to resist the noxious influences of the various infections and toxic fever-producing agents. Classification of the means employed is not simple; for the therapeusis of antipyresis is a complex subject, and whatever of confusion may seem to exist, can only be explained by the lack of harmony in the various and varying views still entertained as to the nature of fever and the methods to be employed for its control. Those who believe the harmfulness of high temperature rely upon antithermic medication, while those who regard high temperature as relatively harmless and assign to micro-organisms and chemical changes the most important position, causative of the complex process known as fever, rely upon measures to increase the dissipation of heat, and through the influence of the nervous system to improve individual powers of resistance.

Antithermic remedies of recent date include all of the so-called aromatic series, the modern synthetical compounds. The true antithermics act absolutely (according to Wood) on heat production and heat discharge (thermolysis and thermogenesis) through the inhibitory nerve apparatus, diminishing in similar manner, though not in equal degree, heat production and heat dissipation; heat production falling decidedly more, as a rule, than does heat dissipation. This effect has been proven to be independent of any influence on the circulation, and in all probability the result is produced through the nervous system directly upon the chemical movements of the organism.[3]

Antifebrile remedies include the "false antipyretics," which increase heat dissipation by acting upon the vaso-motor system and inducing vaso-motor paralysis, of necessity producing the discharge of animal heat in large volume. Prominent in this class we recoguize aconite and veratrum viride, and it is not altogether improbable that in a limited degree by a similar effect on the vaso-motor apparatus some of the so-called antithermics exert an influence on cutaneous and respiratory discharges of heat.

Both the false and the true antipyretics (and this latter class is made up of those drugs which diminish heat production primarily, and only secondarily and in an unimportant sense promote heat dissipation) have of late fallen into disfavor as means to control the course of disease, to lessen complications or to reduce the mortality rate. Glénard closes the discussion before the Society of Medical Sciences at Lyons by stating that the law once more verifies itself, that the obituary curve oscillates in direct ratio with the consumption of antithermic remedies, and inverse ratio to the number of cold baths administered.

Abstraction of heat by cold baths is far less important in its effects than the vitalizing of nerve centres through the reflex stimulus aroused by low temperature applied to the peripheral nerves, and by a reduction of the temperature of the blood circulating in the internal organs.

It is considered that the result of this lowered temperature of the blood is a grateful stimulation to the nervous system, and that the reflex stimulus of nerve centres by cold bathing of the surface of the body induces an innervation for circulation, digestion, respiration, tissue formation and excretion, so that the rapid heart is slowed, the hurried respirations are checked, the failing digestive powers are quickened, and muscular irritability is allayed. Quiet takes the place of restlessness, wandering and delirium disappear, anorexia gives place to desire for food, and more than this the digestive powers are strengthened, nutrition improves, and the waste of tissue is lessened.

The advocates of the antithermic, internal antipyretic and expectant method in antipyresis, have placed much reliance on the experimental and physiological action of cold applied to the surface of the body, as determined by the researches of Frédéricq of Liege, and others, by means of the well-known apparatus of Regnault and Reisset.

The conclusions that "we are warranted in affirming as a physiological law, that under the influence of cold baths, organic combustions are energized and augumented," would appear to be well drawn, and

[3] Wood. Trans. Am. Assoc. Physicians, vol. ii.

would appear to afford to many a fairly reasonable excuse for not entering upon a course of treatment which might be accompanied by danger greater than that which was hoped would be neutralized; and the teachings of experimental physiology would seem to justify us in regarding the method of cold baths, considered as antipyretic and applied to the treatment of febrile phenomena, as an irrational practice; but we find in the abstraction of heat, in the tonic effects of cold water, in the sedation effected in the nervous phenomena induced by the febrile process; above all in the results of saving human life, an answer to all objections, a refutation of all opposing theories, and a justification of the method.

And this brings full before us for consideration the wonderful, the phenomenal, the almost miraculous control exerted over the death-rate in our chief infectious disease typhoid fever, by the use of cold baths as an antifebrile agent. And permit me here to remind you that the febrile movement is to be regarded as a symptom complex, in which high temperature no longer occupies the chief place, the prominent position formerly assigned to it, but is secondary in its influence to that exerted by the more important group of fever-producing agents formed by the pathogenic micro-organisms, the chemical changes set up in the tissues and the intoxication developed in nerve centres by the ptomaines, the alkaloids of decay. Let me here repeat an axiom in antipyresis. "Abstraction of heat by cold baths is far less important in its effect than the energizing of nerve centres through the reflex stimulus aroused by the shock to the extensive pheripheral nerve endings, whereby innervation is furnished for circulation, respiration, digestive tissue formation and excretion, so that the system is enabled to tide over the dangers which would ensue from failure of these functions." "This," writes Baruch, in this admirable article on the treatment of typhoid fever,[4] "is the effect of cold bathing in a nutshell, — the simple cooling of the blood occupies a secondary though not unimportant office."

Permit me to spread before you, and here I again avail myself of a recent paper on the treatment of typhoid fever, "Statistical Evidence in Support of the Claims of the Advanced School of Hydrotherapy"; and you will doubtless concede that never in the history of medicine have statistics of such magnitude, from such reliable and diversified sources, been brought to bear upon a question of therapeutics.

Baruch states that he had gathered from the New York City Board of Health Reports, from 1876–1888, 7,712 cases of typhoid fever, with a mortality of 41.28 per cent. Dr. Delafield, in 1885, states that the mortality of typhoid in the New York Hospital was 24.66 per cent. The mortality rate in the Boston City Hospital has been 13 per cent. The mortality rate in the Massachusetts General Hospital has been 16 per cent. Brand collected 11,124 cases, treated under the expectant plan, with a mortality rate of 21.7 per cent., and with infinite labor and pains, the record of 19.017 cases, to show that "under the general influence of all kinds of cold bath treatment, without, however, its strict enforcement, the mortality had been reduced from 21.8 to 7.8 per cent."

Brand also obtained from twenty-three sources, German and French, of undoubted authenticity, reports of 5,573 cases treated by the cold bath, as advised and urged by him, with a mortality rate of 3.9 per cent.

In the Second Prussian Army Corps, between the years 1849–1866, there were 1,970 cases, with a mortality rate of 26.3 per cent. Later, and under the cold bath treatment, in 2,711 cases the mortality rate was reduced to 4.30 per cent. This contrast is all the more striking when it is considered that at the same time the mortality rate among French soldiers was 32.2; among Italian, 28.6; among Austrian, 27.4; and in the English service, 23.8. Vogel quotes 713 cases, with a mortality rate of 3.40 per cent. Uannyn, 145 cases, with a mortality rate of 6.9 per cent. Brand, an additional series of 2,198 cases, with a mortality rate of 1.7 per cent. Juergensen, Vogel, Brand, and some others furnish reports of 1,223 cases, treated strictly and rigorously in accordance with the plan devised by Brand, with a mortality rate of 1 per cent.

From the latter part of the last century, when Currie published his work on the treatment of acute diseases by cold, up to the present time, but particularly between the years 1861 and 1877, many and important as well as authoritative works have been published bearing upon the treatment of febrile diseases, especially the acute infectious diseases, by cold baths.

Currie, in 1797; Giannini, in 1805; in 1812 the results of Recamier's labors; in 1822, Hufeland; Scouttetin in 1843; Jacquez in 1847; and in 1852 the classical work of Leroy. But it remained for Brand, as early as 1861, and in the succeeding years up to 1877, to accomplish the wonderful results described by Ziemssen, as "the work of one who by the precision and rigorousness which he has put into his method of refrigeration, has merited the right of associating his name with this work of treatment of typhoid fever," the disease, in which above all others, antipyresis exerts the largest and best influence.

I introduce at this point, in order that I may reinforce the statement relating to difficulties in the classification of the means employed in antipyresis, the division made by Ziemssen in his recent lecture on antipyresis and antipyretics.

Ziemssen groups authorities according to their opinions of the value and form of antipyretic treatment into six divisions: —

(1) Of those who use the cold bath and do not employ internal antipyretics.

(2) Of those who employ luke-warm baths, but do not use internal antipyretics.

(3) Of those who, governed by symptoms, make use of either the cold or the luke-warm bath, and internal antipyretics.

(4) Of those who regard high temperature needful and advantageous, employing baths and internal antipyretics only in the presence of symptoms or complications dangerous to life.

(5) Of those who regard high temperature as necessary and refuse all measures leading to its reduction, confining their attention to the diet.

(6) Of those who deny the influence of treatment in the reduction of the rate of mortality.

From this it may be seen that even in Germany, where the study of antipyresis and of antipyretics has been most profound, and the conclusions have been most carefully scrutinized and the effects of treatment, in one direction at least, have exceeded in the positive results of saving human life, all previous efforts, as yet there remains a very large, and it would appear an

[4] The Medical Record, February 16, 1889.

unaccountable lack of harmony, in views expressed, in conclusions maintained, and in methods governing treatment.

(To be continued.)

THE TREATMENT OF LOCOMOTOR ATAXIA BY SUSPENSION.

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In a letter to the *Medical Record* of April 13, 1889, I reported the results of my experience in the treatment of locomotor ataxia by suspension in six cases. Since that time this treatment has been extensively tried in this country and Europe; and I have myself continued the work upon other patients; so that now one can, I think, form a pretty definite opinion of the value of the method. My cases treated by suspension now number twenty-one, and they have received altogether over seven hundred suspensions. I append a tabulated list, showing the character and stage of the disease, the number of suspensions in each case, and the results. It will be seen that among the twenty-one there was

Very marked improvement in	4
Much improvement in	3
Slight improvement in	7
No improvement in	4
Discontinued in	3
	21

The nature of the improvement was oftenest in the gait, strength and capacity for locomotion generally, and in a subjective sense of better physical health. Next to this there was improvement in regularity of the movements of the bowels, in control of the bladder, in sexual power and in the pains. In one case vision was improved. In no case did the knee-jerk or the light-reflex return. The improvement in a few cases was most striking and remarkable. This remarkable improvement occurred always in walking cases, though one case that came into the hospital bedridden was able to walk with help after suspensions. The paralytic cases, as a rule, improved but little. The cases nearly all had been suffering from the disease for six to ten years. I have treated but one in the initial or pre-ataxic stage.

My results agree in the main with the reports of others, namely, that in fifteen to twenty per cent. very great improvement, and in about the same proportion a moderate improvement, occurs. In the light of my experience all the *à priori* condemnations of the method seem to me very absurd. Suspension is an undoubted acquisition to the therapy of tabes. In the second stage, it is remarkably helpful in a good percentage of cases; in the third stage patients are often improved in bladder, rectal symptoms, and the pains are sometimes relieved.

I have had no accidents worth mentioning, but have had two patients nearly faint while in the apparatus. I several times suspended one man seventy years old for six to nine minutes, not only without harm, but to his great comfort and relief. Still, three fatal cases are on record; a good many syncopal attacks have been observed; and the suspensions must always be made in a systematic way, and with great care and attention to detail. The effect upon the heart, in several cases in which I tested it, was to slow the beat. Usually it is slightly accelerated, and arterial tension raised.

The number of suspensions necessary to secure the

No.	Sex.	Age.	History of Syphilis.	Duration. Years.	Locomotion.	Muscular power.	Amount of pain.	Condition of Bladder.	Sexual function.	Number of Suspensions.	Result.
1	Male.	60	Yes.	10	Very poor.	Good.	None.	Good.	Absent.	4	Discontinued. No improvement.
2	Male.	50	Yes.	8	Poor.	Mod.	Severe.	Good.	Absent.	30+	Very great improvement in gait, strength, and freedom from pain and tremor.
3	Male.	48	Yes.	5	Good.	Mod.	None.	Good.	Absent.	35+	Much improved in gait and strength.
4	Male.	42	?	3	Poor.	Mod.	Severe.	Good.	Absent.	25+	Very much improved in gait and strength and freedom from pain.
5	Male.	37	?	4	Very poor.	Very poor.	Severe.	Inc.	Absent.	6+	Discontinued.
6	Male.	40	..	8	Very poor.	Mod.	Mod.	..	Absent.	30	Much improvement in gait.
7	Male.	47	Yes.	6	Poor.	Mod.	Mod.	Poor.	Very weak.	26+	Very great improvement in gait, bladder, sexual function and strength, and bowels.
8	Male.	43	Yes.	9	Very poor.	Good.	Mod.	Poor.	Absent.	40+	Very great improvement in gait, coördination, and general strength, bowels, and in vision.
9	Male.	55	No.	7½	Absent.	Very poor.	Mod.	Ret.	Absent.	16	Very slight, if any, improvement. Treatment not completed.
10	Male.	50	?	8	Poor.	Poor.	Mod.	Good.	Absent.	24	Great improvement in gait and sexual power.
11	Male.	34	Yes.	10	Good.	Good.	Severe.	Good.	?	32	No improvement.
12	Male.	68	No.	10	Good.	Mod.	Severe.	Ret.	Absent.	29	Considerable improvement in strength, none in bladder.
13	Male.	50	Yes.	10	Poor.	Poor.	Mod.	Good.	?	15	No improvement.
14	Male.	44	No.	1½	Absent.	Poor.	None.	Good.	?	70+	No improvement.
15	Male.	62	No.	3	Poor.	Poor.	Mod.	Poor.	Absent.	30+	Considerable improvement in gait and strength. Return of sexual power. Bladder better.
16	Male.	50	..	5	Good.	Good.	Mod.	Poor.	..	60+	Somewhat better.
17	Male.	61	No.	3	Poor.	Poor.	Severe.	..	..	..	Discontinued.
18	Male.	53	?	8	Absent.	Poor.	Mod.	Poor.	..	25	Improved in bladder and coördination.
19	Male.	57	No.	10	Absent.	Poor.	..	..	..	50+	Slightly improved in bladder, general strength, and coördination.
20	Fem.	50	Yes.	20	Poor.	Poor.	Mod.	Poor.	..	60+ 70	Moderate improvement in gait. Pains relieved.
21	Male.	40	Yes.	2	Good.	Good.	Mod.	Good.	Good.	15	Considerable improvement in ataxia.

best results is not known, and seems to vary in different cases. One of my patients was suspended over ninety times, sometimes twice daily. Motchoukowsky kept up suspensions for nearly a year, giving eighty or ninety. Usually improvement occurs within a fortnight. I have used both the chin-support alone with a spring-balance, and the chin and arm supports. I am not able to say whether one method is superior to the other.

I have used the suspension treatment in a good many spinal troubles other than tabes, and sometimes with surprisingly good results. It does no good in paralysis agitans, however, and only rarely in the various forms of chronic myelitis. In certain functional spinal maladies it is very helpful.

The modifications in technique by Pochery and others may extend its usefulness somewhat. In Motchoukowsky's original descriptions it will be seen that in some bad cases he kept patients on an inclined plane, and that he kept up suspensions nearly a year.

Of the recent contributions to the literature of this subject, the most interesting are those of Eulenberg and Mendel, of Bernhardt, and of Dujardin-Beaumetz. These represent results of treatment upon nearly a hundred cases, and contain conclusions substantially in agreement with those given here.

Four of the cases reported here were in my service at the Montefiori Home, and were also suspended during the service and under the direction of Dr. B. Sachs and Dr. Seesel. One patient was seen in consultation with Dr. F. T. Kidder of Woodstock, Vt. One patient was sent to my clinic by Dr. Wm. M. Leszyisky.

THE SEDATIVE ACTION OF ELECTRICITY.[1]

BY GEORGE H. WASHBURN, M.D.

WHEN we wish to ascertain the nature of an object that is in the dark, we do not consider the best method to be that of groping about in a hit-or-miss way. Neither would it be proper to accept as accurate, the testimony of those who had explored(?) the object in that way. Lights should be brought, and the object illuminated by the brighest rays, that should penetrate to every crack and corner.

There are some things in medicine that have been surrounded with too much of an air of mystery. It has been the custom to close the blinds, and shut out the full light, before approaching them.

I am happy to say that one subject is now coming into fuller study and appreciation. The extensive use of electricity in the mechanic arts, has given an impetus to its fuller study in its relation to medicine. Electricity is becoming a well-recognized and appreciated therapeutic agent.

There is a danger, however, which is showing itself in this way; the air of mystery and indefiniteness which has surrounded this *force*, has given many an exaggerated idea of its power and capabilities. They are disappointed because they cannot accomplish everything with it, and so condemn it unreservedly. Many do not understand the methods of its use, and naturally do not get much result from its employment, but to their condemnation more weight is given, than to the records of success, from those who know how to use this powerful agent.

[1] Read by invitation before the Obstetrical Society of Boston, June 8, 1889.

All subjects should be approached calmly, with judgments unbiassed. The full light of observation and investigation should be let in, that the good and useful points may be brought to view as well as the defects.

There is no better way to arrive at the value of therapeutic agents, than to study them clinically, compare results, and have these discussed.

This paper to-night, is not intended to bring out any new facts, but to record some observations about old facts, and perhaps emphasize the value of electricity in a line in which it is not generally appreciated. It will not have failed in its object if it elicits a free discussion of the subject.

At this time of intense application to pursuits of every kind, when so many become nervously exhausted, sedatives are a very important class of remedies. Sufficient importance has not been given to electricity for this purpose, by most physicians, it seems to me.

I shall briefly introduce a number of cases to illustrate the various sedative effects of electricity.

The following reports, are mostly of cases that I have treated for Dr. W. H. Baker, and which he has very kindly allowed me to make use of.

Mrs. S. was a neurasthenic, complaining of headache, irritability, inability to apply herself to any one thing for more than a few minutes at a time. Galvanism was applied twice a week to the spine for fifteen minutes at each sitting. During the latter part of the treatment, the patient would become quite drowsy, the tired restless feelings would leave her. This feeling would last for some hours, and the following night too, she would rest much more refreshingly.

The electricity in this case, and indeed in most of the cases of this class, was applied with the negative pole at the nape of the neck, and the positive at the base of the spine; the battery used was a McIntosh, and the strength of current varied somewhat in each case, but averaged about seven milliampères probably, though it was not always measured, but it was strong enough to produce a distinct burning feeling under the negative electrode. The length of time of application, as has been said, was fifteen minutes.

Another case of much the same kind, but more hysterical. Here the applications were made every other day. The patient could perceive the characteristic metallic taste in the mouth, almost before feeling the burning sensation at the point of contact of the electrode. This was not imaginary either, for she knew nothing about the possibility of tasting electricity, nor of course of how it should taste. If the current was purposely made weak, she would recognize the fact at once. Here too, there was the quieting, soothing effect, and succeeding this a refreshing feeling. She could do more the next day without feeling fatigue. Her sleep refreshed her more the following night.

In this case, quite a strong current was required to produce the customary sensation of heat at the point of contact of the negative electrode. As it was at the patient's house that this was applied there was no galvanometer, but twelve cells of the battery were required.

In these cases there is not only the immediate sedative effect of which mention has been made, but also a general tonic effect, from the continued use of the galvanism, improving nutrition, and helping to build up the general tone of the body. The electricity alone would probably not be sufficient, but it has

proved its value in *conjunction with* general nervous tonics, where the use of these latter alone had failed to accomplish anything, until electricity was used. But this is digressing a little.

The use of electricity as a hypnotic of course suggests itself at once.

One case illustrates this action so well that it must be mentioned, although the galvanism was not applied for that purpose. The patient is suffering from a multiple fibroid of the uterus, for which she is receiving electrolytic treatment, after Apostoli's method. The current used is a strong one, running up to about one hundred milliampères. She goes to sleep during the treatment, and is so sleepy for thirty-six hours after that she cannot accomplish much.

Miss M. is a frail-looking young lady, nervously worn out, but not specially hysterical. One great difficulty is her inability to sleep. Almost the whole list of hypnotics has been tried without success. Galvanism was tried, beginning with quite a mild current. She slept better that night. A treatment of galvanism to the spine was given for fifteen minutes every night, at about eight o'clock, for some weeks. Her sleeping was very much improved. During the earlier part of the time, if she missed a night, she did not sleep so well. There was the same result if the current was too weak.

Imagination might have had something to do with the result, but it was very little if any. She was an intelligent, common-sense girl, and then, too, I tested her in various ways. Several nights I used a battery, the fluid of which had become exhausted. She at once recognized the absence of current, and I could not make her imagine that it was present, or that she was deriving benefit from it. On those nights she did not sleep as well.

Many more cases might be noted to show the hypnotic effect of galvanism, but for the most part they are essentially the same as the case just described.

Sometimes as an adjuvant, a warm sponge bath may be given, bathing especially the back of neck and spine with quite hot water. I have recently seen a report of the use of this method with good success, in an English insane asylum.

In most of these cases I have applied the negative pole to the nape of the neck, and the positive to the base of the spine; but some cases seemed to do better with the positive at the back of the neck and the negative at the base of the spine. I cannot explain this difference of action, I have not seen it explained. In a recent discussion at the Academy of Medicine in New York, Dr. Gray noted the same fact, but no satisfactory explanation was elicited. The only rule to be given is, if it does not work in the first way, try the other.

This is certainly unsatisfactory scientifically, but an explanation is still awaited.

Electricity may act as a local sedative as well as a general one. Some localized hyperæsthesias may be much benefited by galvanism.

Mrs. M., is at times troubled with hyperæsthesia of the vagina, making it almost impossible to wear a pessary to keep up a retroverted uterus. The appearance of the vagina is perfectly normal but this sensitiveness is very considerable. A weak current was used. She could not bear more than three or four cells. The negative pole is applied to the vagina by means of a flat "spoon electrode," and the positive to the lower part of the abdomen. Only a few treatments were necessary to relieve the trouble, and this not because it was relieved of itself, for all previous applications has failed entirely to relieve it.

Miss G. is another similar case. The anode is supposed to be the sedative pole, but in these cases the negative was the one used most satisfactorily.

Headaches are as varied in their causation and character as they are frequent in occurrence. As might be expected, the results from electrization are also varied. Some forms of headache seem to be unaffected by either the galvanic or faradic currents, others are made worse, but there is one class of headaches which seem to be quite uniformly cured, or at least benefited by the use of one or the other current and this class is the one of neuralgic headaches or what are sometimes called nervous headaches, such as are often seen in cases of neurasthenia. This class generally respond to the galvanic current, but in a few cases the faradic is found most efficacious.

Miss G. is subject to occasional violent headaches which nearly drive her wild. She suffers so that she hardly knows what she is doing. The pain seems to be "right in the brain," to use her own words. Remedies of all kinds had been tried without any special result. Morphine in good sized dose had been the only thing that had relieved her. The galvanic current was used, the positive pole being placed at the back of the neck and the negative on the forehead, the current being allowed to pass through my hand. Only a moderate current was used. There was no special improvement during the treatment which lasted fifteen minutes, but about twenty minutes later the head began to feel relieved and the pain gradually passed off. Whether there will be any permanent benefit to the headache in this case I cannot tell, as the applications have been made only a few times. But a general toning-up of the system by means of electricity and general tonics will probably permanently relieve the head. This patient was much run down and of rather a neuralgic tendency.

In some cases the head is relieved while the electricity is being applied.

Miss V. is another similar case, but here there does not seem to be a uniform response to the galvanism. Generally, however, the faradic current will relieve her if the other fails.

Another class of headache that can be benefited by electricity, in a secondary way, is the one that comes from delayed or absent menstruation. This is relieved by employing the electricity to bring on the flow. For this purpose the faradic current is the one I have employed, though the galvanic is said to accomplish the same result and is the one mentioned for that purpose in Beard and Rockwell's book on "Medical Electricity." The same authors, I may say, quote some interesting cases of headache cured by the use of galvanism to the central nervous system.

The nervous headaches are not only benefited at the time, but by the persistent use of the galvanism they are rendered more infrequent.

"In cases of dyspepsia, neurasthenia, anæmia and hysteria, headache was a prominent symptom, which was not only temporarily but permanently relieved by this (electric) treatment," say Beard and Rockwell.

Ranney, Birdsall, Rockwell and others report cases where the severe pains of locomotor ataxia have been much mitigated by the application of electricity.

Most forms of neuralgia are much benefited by the electric treatment, so much so that some have almost entirely discarded internal medication in this affection. Either a strong faradic or a moderate galvanic current may be used; the galvanic is the one generally preferred. Where painful points are to be felt, the electrodes are to be placed successively on each of these for a minute or so. Generally the positive pole is the proper one to apply to these painful spots: but as has already been mentioned, it is sometimes found that the other pole does more good.

Mrs. K., suffering from coccygeal neuralgia had galvanic treatment every other day for about a dozen applications. The current used was moderately strong, one pole was applied over the coccyx, the other about a foot farther up the spine. After several treatments there was considerable improvement but the pain was not entirely dissipated.

She was much run down nervously and is now improving much in her general condition under a course of central galvanic and general tonic treatment.

Mr. B. was suffering from an acute attack of sciatica. There were a number of especially painful points along the course of the nerve. He was put onto a general course of medication but not improving much, a strong faradic current was applied along the course of the nerve. The pain was increased during the treatment but afterwards it was considerably relieved, and after several applications he was so much improved that he thought he could go out of the city to attend to some business, though he was not well yet.

Some pelvic neuralgias seem to yield to the faradic current rather more readily than to the galvanic.

There are certain painful morbid conditions in the pelvic organs and tissues which show much improvement under electrical treatment, so that in this way a secondary or mediate sedative effect is produced.

Some of these conditions may be just named here but it is beyond the province of this paper to enlarge upon them. Fibroids in many cases may be dissipated or at least rendered much less troublesome by electrolysis. Some old chronic exudations may be absorbed owing to the galvanic treatment. Some forms of endometritis can be relieved or cured and strictures of the uterine canal are said to be dissipated.

In order to be successful with electricity, it is essential that the physician understand the working of his battery, that he keep it thoroughly clean, as he would his surgical instruments, and that he test it each time before using it, to be sure that everything is in order. A galvanometer is now an absolute necessity to one using electricity much, though where weak currents are used it is not essential, if you know your battery well and can rely upon it.

Sometimes the physician has to educate his patient up to the use of electricity. An illustration will show my meaning.

A young lady had received electrical treatment at the hands of a distinguished physician in another city. The results were anything but satisfactory. The physician whom she consulted subsequently deemed that electricity was needed. She was very nervous about it, remembering her former experience. For over a week the whole form of giving electricity was gone through with, but no current was used. She became reassured. The current was now used very weak and gradually increased. It was well tolerated and moreover, much benefit was derived from its use.

Other factors, too, play an important part in the successful use of electricity, namely, the size of the electrodes; their saturation; their being wet with a salt solution, when a weak current is to be made more perceptible; the amount of pressure exerted upon them and the placing of them according to the different results which it is desired to attain.

A CASE OF DELIVERY OF THE BREECH BY THE FORCEPS.[1]

BY CHARLES W. TOWNSEND, M.D.

MRS. B., twenty-one years old, primipara, an outpatient of the Boston Lying-in-Hospital, was taken in labor February 22, 1889, at 6.30 P. M. Pains continued at frequent intervals during that night and the next day, when at midnight Mr. C. A. Pratt, externe of the hospital, reported that there had been no advance in the last three or four hours, and that the woman's pulse had gone up to 128, and the fœtal pulse from 144 to 160. On my arrival an hour later, examination showed a fairly developed woman, the pelvic measurements showing nothing abnormal. She was beginning to show signs of exhaustion, the pulse being 128, and the pains were approaching the tetanic type, the contractions being so nearly continuous that external examination was unsatisfactory. The back of the child was on the left, the fœtal heart 160, regular and heard loudest two inches below and to the left of the umbilicus. On vaginal examination the breech was found presenting at the brim; sacrum left anterior; the buttocks greatly swollen. The os was two and a half inches in diameter.

Under ether at 1.30 A. M., February 24th, the os was manually dilated, and a firm constriction ring was felt encircling the child just above the crest of the ilium, the lower segment of the uterus being closely applied to the child and somewhat thinned. Immediate interference was, therefore, strongly indicated. Successful traction by the finger hooked into the groin being impossible on account of the high position and the close apposition of the soft parts, the use of the blunt hook or fillet being deemed inadvisable for the same reasons, and the pulling down of a leg dangerous on account of the constriction ring, the thinning and close apposition of the lower segment of the uterus, Simpson's forceps were applied. One blade was placed over the sacrum, the other over the posterior surface of the anterior thigh. Axis traction-rods were added, and with two or three strong tractions the breech was brought down into the pelvis. The forceps were then removed; but it was found impossible to deliver the breech by traction with the fingers, and they were reapplied without the rods. With strong traction the breech was brought to the vulva, and held from receding by Dr. Edw. Reynolds, while I removed the forceps. The perineum was remarkably resistant and elastic, and was pulled back by Dr. Reynolds while I delivered the breech. An examination after the birth of the child showed only a very slight abrasion on the mucous membrane inside the perineum. The arms, although extended above the head, were easily delivered, and the head came out without any difficulty. The child was born asphyxiated, but after mouth-to-mouth insufflation and artificial respiration it gasped, and in the course of

[1] Read before the Obstetrical Society of Boston, June 8, 1889.

half an hour respiration was regular and the color good, but the child did not cry.

The use of the ordinary Simpson forceps in this case was certainly very satisfactory. They were easily applied and locked, and showed no tendency to slip, as in a case previously reported [2] by me to this Society, where the Miles forceps, especially intended for the breech, were used. The use of the axis traction-rods in the present case partly explained the success. Without the forceps, delivery of the child could only have been effected by the drawing down of a leg, a proceeding, which owing to the beginning thinning of the lower segment of the uterus, would have involved some danger of rupture of the uterus.

The child, a male, showed not the slightest mark of the forceps. It weighed seven and one-half pounds, was feeble, but on the third day took nourishment well, and the breathing became more vigorous. On the morning of the fourth day, however, two large cephalhæmatomata appeared, one on each parietal bone. The child had a convulsion at 3 A. M., and at 11 A. M. died. The autopsy showed, besides the two large hæmorrhages beneath the pericranium covering the parietal bones, a hæmorrhage at the base of the brain. The lower lobes of both lungs were in a partial atalectatic condition. A careful examination of the abdominal viscera was made in order to learn if there had been any lesions there caused by the use of the forceps, but everything was found to be perfectly normal. As the head had been subjected to but little pressure during the labor, there having been no delay in the pelvis, it is difficult to understand why these hæmorrhages occurred, unless the child had a tendency to hæmorrhage. That the cephalhæmatomata were not due to pressure in labor is probable from the fact that they did not begin to appear till the morning of the fourth day.

The mother made an excellent recovery, her temperature remaining below 99°, except on the day the baby died and on the day following, when it reached 100° in the morning. She was discharged well on the tenth day.

Clinical Department.

A CASE OF FRACTURE OF THE SPINE.[1]

BY A. J. ABBE, A.M., M.D.
Visiting Surgeon to the Fall River Hospital.

ON February 16, 1889, D. H., forty-eight years old, of Irish nativity, was driving into a barn upon a load of baled hay. In order to avoid the beams on the ceiling, he bent forward as far as possible, putting his head down between his knees. In this doubled-up position a beam struck him on the back of the neck and shoulders, and crushed his body still farther together. He was picked up in a condition of extreme shock. The next day he was admitted to the Fall River Hospital, service of Dr. Thompson, and was seen by the consulting surgeons and many of the staff. He had rallied from the shock, but complained of extreme pain in the legs when they were moved. Complete paraplegia existed with retention of urine and fæces. The patient was etherized, and there was found a fracture and dislocation of the spine, with separation of the processes by a finger's breadth just above the twelfth dorsal vertebra, fracture and displacement of seventh, eighth and ninth ribs on left side in axillary line, large contusions over and below left scapula and left hip. On account of these latter lesions it was deemed best not to put on a plaster jacket or anything of that nature, but extension was made manually from axillæ and legs, with the man in a horizontal position, and a six-pound weight was applied to each foot, counter-extension being secured by raising the foot of the bed. Adhesive plaster bandage to whole chest. Patient was placed on a fracture-bed, and morphia, one-eighth of a grain, given subcutaneously.

February 18th. Great pain in legs all day. Weights removed at night, and not again used. Pulse 80, temperature 100.2°.

February 19–21st. Delirious and screaming with pain in legs. Morphia, one-quarter of a grain every three hours by mouth. Hyperæsthesia throughout legs. Alcohol lotions on back and buttocks. Pulse 72, temperature 98.6° to 99.8°.

February 22d. Abrasions appeared on back, and bed-sores on buttocks. Great pain produced by any attempt to change position of body to get at back. Impossible to keep him on his side on account of pain. Morphia one-half of a grain every three hours. Bismuth subnitrate as dressing for sores.

February 25th. Less pain in legs. No dejection procured by laxatives or enemata. Fæces removed with the fingers. Heretofore has been catheterized twice daily; now urine has become alkaline, and must be drawn four times a day.

February 26th. Temperature has been gradually rising for a week; now 102°. Pulse 90, weak. Constantly delirious and moving about in bed by means of his hands. Less pain in legs, but great pain if attempts are made to move them.

February 27th. Increased pain and great delirium.

February 28th. A little worse. Pulse 100. Temperature 101.8°.

On March 1st, I came on duty and the case was transferred to me. Urine alkaline, and double the former quantity, about two quarts. Bladder washed with bichloride 1 to 1500, followed by warm water. Soft rubber catheter tied in.

March 2d. Condition not so good. Pulse 110 and weak. Spiritus frumenti, one ounce, every three hours, and all the liquid nourishment possible.

March 5th. Impacted fæces removed digitally.

March 10th. Has improved considerably. Temperature has reached normal. Pulse fairly strong at 90. Catheter has remained in, a slight urethritis not troubling him. Bladder washed out every few days. Impacted fæces removed as often as he feels them. Diet stronger.

March 12th. Delirium gone. Whiskey stopped.

March 23d. General condition about the same. Spends his time reading. Bed-sores on both ischia in good condition. Can slightly move toes of right foot.

April 1st. Greatly improved. Catheter removed, and he is taught to use it on himself.

April 15th. Very slight motion in both feet. After several attempts, enemata of glycerine one drachm, succeed with a little digital aid on his part in producing evacuations.

April 25th. Is twisted around in bed and legs allowed to hang. Considerable discomfort.

April 26th. Is put into a chair. During the past

[1] Part of a paper read before the Fall River Medical Society.

[2] Boston Medical and Surgical Journal, January 3, 1889.

month the daily range of temperature has been between 98.4° and 100°.

May 1st. Dr. Dolan takes charge. Pain on bending legs. Bed-sores healed.

May 4th. Supported in the upright position and as much weight as possible allowed to come on his feet.

May 10th. Assisted to stand on crutches every day. Bowels will move with the aid of aloin and podophylin tablet. A Faradic battery used on spine and legs.

June 1st. Is able to go about on crutches by himself. More power in the left leg than in the right.

July 15th. Has continued to improve. Can walk with one crutch and a cane.

August 28th. Has succeeded in voiding urine, which has become normal, without using his catheter. Discharged.

His present condition (October 15th), is as follows: At the twelfth dorsal vertebra there is a knuckle about quarter of an inch in elevation. He walks without a cane slowly and carefully, swinging his right leg outward. Has very little power in the flexors of the right thigh, and in going up or down stairs can use the left leg only. Bladder normal. Uses laxative pills. No pain. "Knee-jerk" absent. Right thigh measures 13½ inches, calf 11½; left thigh 14¾, calf 11.

Reports of Societies.

AMERICAN GYNECOLOGICAL SOCIETY.

Fourteenth Annual Meeting, held in the Hall of the Massachusetts Institute of Technology, Boston, September 17, 18 and 19, 1889, the President, Dr. H. P. C. Wilson, in the chair.

FIRST DAY. — MORNING SESSION.

THE ADDRESS OF WELCOME

was delivered by Dr. J. P. Reynolds, of Boston.

THE USE AND ABUSE OF ANTISEPTIC INJECTIONS IN OBSTETRIC PRACTICE,

by Dr. H. J. Garrigues, New York.

When one was satisfied that puerperal fever, in any given case, was the result of infection, the use of antiseptic injections was indicated. At the Maternity Hospital, New York, from 1874 to 1884, the mortality had been 4.17 per cent. From 1884 to 1888, during which time the author's method of treatment had been employed, there had been a mortality of only a fraction of one per cent. Vaginal injections before delivery were useful, though they were objected to by many authors on the ground that they were dangerous, that the lubricating mucus of the vagina was removed, etc. While the bacteria on the surface of the vaginal mucous membrane are innocuous, they are not harmless when they penetrate the underlying tissue. They also constitute an element of danger when carried from the vagina into the uterus. A vaginal injection, repeated every three hours during labor, renders the canal aseptic enough for practical purposes. The external parts should be disinfected by rubbing with cotton soaked in the antiseptic used. In normal cases the vagina should not be touched, but only protected by the application of the antiseptic occlusion dressing. Intra-uterine injections should be given when it has been necessary to enter the uterus or vagina by the hands or instruments, or when the fœtus is macerated. A vaginal injection should be used as a therapeutic measure when the lochia are fetid. Vaginal or intra-uterine injections are used in puerperal diphtheria before and after cauterization of the affected locality with zinc chloride. Curetting should be preceded by a vaginal and followed by an intra-uterine injection. In abortions, a vaginal injection should be given before removal of the remains of the ovum, and a uterine injection after removal. He has collected twenty-two cases of death from mercurial poison in obstetric cases; in some of which the mercurial had been employed by men of the highest professional standing and skill. He, therefore, prefers less dangerous agents. Recently he has used a two per cent. emulsion of creolin and is pleased with it, except where he wishes to judge of the condition of the uterus by the condition of the returning fluid, and where it might mask offensive odors. It had valuable lubricating and hæmostatic properties. He prefers for injection a fountain syringe with a glass single-current tube, the patient being always on her back. The bag should be suspended not more than two feet above the body. The tube must not be forced into the uterus, but introduced with great care. Failure to preserve this precaution has resulted in perforation of the uterine wall. Not more than two or three pints of fluid should be used, and if the fluid ceases to return from the uterus, the bag of the syringe should be brought down below the level of the bed, so as to reverse the current by siphonic action. The fluid should ordinarily be lukewarm, except when used as a hæmostatic, when it should be as hot as can be borne. Injections properly administered are a most valuable means of prophylaxis and cure, and are not so difficult to handle but that every intelligent practitioner may employ them.

DISCUSSION.

Dr. Lusk, New York, agreed wholly with the fundamental principles of the paper. He believes that all cases of puerperal septicæmia, where the poison has entered through the vagina, are caused by neglect of ordinary antiseptic precautions by the attendant. Cases resulting from putrid infection, from decomposing organic material, in the interior of the uterus are those most successfully treated by the douche. They are not true septicæmia. In true septicæmia the douche can only benefit before the infecting germs have gained access to the general lymphatic system. Do not interfere with uterus without reason. With repeated douching a portion of the injected fluid will remain behind each time and may cause symptoms of poisoning by the antiseptic used. A slight elevation of temperature or moderately rapid pulse are not symptoms calling for repeated douching. A fetid odor is not necessarily an indication for an injection, for quite commonly it is caused by an ordinary catarrhal endometritis. When the douche is indicated, use it once thoroughly, introduce an iodoform pencil, and let the uterus alone. Do not attend infectious fevers and obstetrical cases at the same time, for in spite of antiseptic precautions you will have cases of puerperal sepsis. Remember that certain other fevers, as typhoid, may resemble true puerperal septicæmia.

Dr. H. C. Coe, New York, said that it was often by no means easy to determine the point of septic infection. Douching should be limited to once or twice in all cases. He had used creolin and thought it was

a reliable antiseptic. The great objection was the masking quality of its odor. He considered prophylaxis most important.

DR. WM. M. POLK, New York, employed a method differing in details from that of Garrigues. He cleansed the genital tract much as he would the skin: first washing off the mucous surfaces with potash soap and water, and then using a 1:5000 bichloride solution or creolin. He would treat the uterus in puerperal sepsis as he would any external suppurating cavity. The vagina being cleansed, the uterine cavity is to be thoroughly cleaned with a cotton swab or curette, washed with bichloride solution and dried with cotton. The cavity is then packed with iodoform or creolin gauze. This is his routine treatment after abortion, and gives him the very best results. It may be necessary to repeat the procedure on the second day.

DR. P. F. MUNDÉ, New York, said it was absolutely necessary to ascertain the precise source of infection before proceeding blindly to work. One nearly always found blood clots, deciduous shreds, placental tissue, a villous or an inflammatory hypertrophy of the placental site. The cavity of the uterus should be carefully cleared out. He had long advocated the use of the curette. After curetting, use the douche once or twice, then stop. After the douche he employed the antiseptic pad, cold coil and ergot, and cases taken in time did well. The most fatal cases were those of pure septicæmia, where there was no pain, no inflammatory exudation and no fetor. A patient may have a chill and rise of temperature soon after the use of the douche. This chill need cause no alarm, as it is traumatic and convalescence will go on undisturbed. He agrees with Lusk that septic fever is usually the fault of the accoucheur, and that after a normal confinement the use of the douche is unnecessary.

DR. A. PALMER DUDLEY, New York, believed that certain cases of puerperal fever were due to infection from a unilateral pyosalpinx. A careful examination of the uterine appendages might reveal the necessity for laparotomy.

DR. HOWARD KELLY, Philadelphia, would always wash out the vagina where there was any suspicion of infection. The use of his obstetric cushion was of great value where the surroundings were dirty and poor, in keeping the patient and the bedding dry and clean.

DD. E. C. GEHRUNG, St. Louis, thought an injection might carry debris further into the uterus or force fluid into the tubes. He would rather employ an aspirating force, such as is made use of in a double-current catheter he had devised.

DR. W. GILL WYLIE, New York, said that in many cases of puerperal fever the source of the trouble was not in the uterus, but in the tissues of the broad ligaments. In these cases it was necessary to use the knife or aspirator, and evacuate the pus through the vagina. In certain cases, even laparotomy, with removal of the tubes, or washing of the peritoneal cavity might become necessary. He believes in frequent washing out of the uterus, even as often as once an hour. Sepsis he believed to be a more frequent cause of salpingitis than gonorrhœa.

DR. GARRIGUES, in closing the discussion, warned against depending solely upon temperature as an indication for uterine irrigation. When there is fever, search over the entire body and find the cause. If about the womb, then use the douche. The distinction between the various forms of septic infection is not practical at the bedside. He approved of the preliminary use of soap and water, recommended by Dr. Polke, but saw no necessity for gauze or other means of drainage. Chills are not common when hot water is employed; but when they occur, the irrigation must not be repeated. Laparotomy after confinement can seldom be appropriate as the patients or their friends will not allow it, and as at most it must be merely exploratory. Frequent irrigation might not be harmful when skilfully employed, but he would prefer an intra-uterine suppository.

A DIGEST OF TWENTY YEARS' EXPERIENCE IN THE TREATMENT OF CANCER OF THE UTERUS BY GALVANO-CAUTERY.

by DR. JOHN BYRNE, Brooklyn.

He had tried to demonstrate as early as 1872 that this means of treatment was less dangerous than any other and that it gave better results than any other means employed. One reason of the slight knowledge of galvano-cautery among the majority of gynecologists was due to the general use of the Paquelin instrument. This he considered an ingenious philosophical toy, but of little use, and dangerous on account of the great amount of radiated heat. The facts and suggestions he now offers are based solely on personal experience. During the last twenty years, he has operated on 367 cases of uterine cancer. Of these 121 were lost to observation before the end of the first year. In fifty-nine cases, the vaginal portion of the cervix was alone involved. The average period of exemption of the cases which were kept under observation being eight years and seven months. In eighty-one where the entire cervix was affected the period of exemption averaged five-and-one-half years. In eight where the disease was confined to the body of the uterus the average period of relief was two years. In all cases of carcinoma we must include all of the cervical tissues no matter how small the growth may be. The cauterization must be thorough, and the patient carefully watched afterward, so that it may be repeated on the slightest suspicion of a recurrence. His usual method is to remove the cervix as completely as possible by the galvano-caustic loop, than to thoroughly cauterize the mucous membrane of the uterus by an instrument passed into the uterine cavity, and a final thorough recauterization of the cervical stump. In advanced cases, temporary relief is all that can be hoped for, but this is great, as after the operation cachexia and anæmia will often temporarily disappear. Recurrence is usually in the lymphatics of the ovary or broad ligament and is attended by much less pain, odor or hæmorrhage. The parts must be quite dry before the cautery is used. Moisture must be repeatedly wiped away and the cautery reapplied until all the tissues within reach are thoroughly seared. The deeper lying cancer cells are destroyed by less heat than will injure normal tissue. The cautery must always be introduced cold and the circuit not completed until it is in contact with the tissues to be destroyed. No medication is usually needed after the operation, except after a few days cleansing douches. He deprecates the heroic surgery now so often advocated, when his method gives better and safer results.

DISCUSSION.

DR. A. REEVES JACKSON, Chicago, said that the

careful records of twenty years set forth in this elaborate paper lead to conclusions that cannot have been superficially or hastily reached. They form a striking contrast to most of the recent contributions to the treatment of cancer, which advocated serious cutting operations and showed results which were far inferior to those published by Pawlik and Byrne. Of the three competing methods, hysterectomy, amputation or the cautery, we must adopt that which is best and of the least danger in any particular case.

DR. THADDEUS A. REAMY, Cincinnati, said that galvano-cautery is subject to the same disadvantages as other means and will not save the patient when the disease is beyond the internal os. In his own series of fifty-seven operations for cervical cancer, twenty-two patients were apparently cured, and he did not think that the results would have been better had the cautery been employed. He thought it was the extent which the disease had reached that determined the limit of successful treatment rather than the particular method employed. Vaginal hysterectomy was sometimes advisable, and would undoubtedly save a few cases where the fundal endometrium was involved. He thought the author of the paper too sanguine in regard to the possible result of his method and too indefinite in stating both the limits of the disease and treatment.

DR. BYRNE said Dr. Reamy somewhat misunderstood his views. It was impossible to define the limits of cancer in any given case. The cautery was of particular value, because, even after the use of the knife, it would reach diseased tissues otherwise inaccessible. He only claimed long-continued relief from symptoms, and not absolute cure. He was entirely opposed to hysterectomy and was sure that the statistics were much less favorable than had been reported.

A MEMORIAL TO THE LATE DR. JAMES B. HUNTER

was read by DR. H. C. COE.

NATURE AND LIMITATION OF OPERATIVE TREATMENT FOR UTERINE FIBROIDS,

by DR. PAUL F. MUNDÉ, New York.

There was a tendency among the profession at large to look upon all uterine fibroids as requiring some kind of treatment, and the laity in general believed that any tumor was likely to kill, so that there was often difficulty in convincing the patient that her fibroid was comparatively harmless. He questions whether the pathological importance and injurious influence of these tumors warranted the extravagant enthusiasm accorded to their conservative treatment by galvanism. While not wishing to detract from the credit due the originator of the method, he thought the relative value of the treatment exaggerated and its indications extended beyond absolute necessity. He mentioned several cases where heroic operations had been done for innocuous fibroids.

His own observations during the last three years included 2,974 cases of pelvic disease. Of these, 123 were instances of uterine fibroid; 61 of these gave so little trouble that not even medical treatment was thought necessary. In the 62 remaining cases the treatment called for depended upon the location of the tumor and the symptoms produced. Subperitoneal tumors seldom call for treatment, except for pressure symptoms. Interstitial or submucous for pressure or menorrhagia. Cervical for interference with defecation, micturition, parturition, coition or for the bloody discharge to which they may give rise. The author warns against the premature operative removal of sessile fibroids per vaginam, when a few months' oxytocic treatment will often render them easily accessible through the dilated cervix. From a study of the treatment adopted in the 62 cases mentioned, he reaches the following conclusions:

(1) Fibroid growths of the uterus situated near the fundus uteri and showing no tendency to downward development, if requiring active treatment, are best reached from the abdominal cavity.

(2) Tumors situated near the internal os and under the influence of oxytocic measures, or of their own accord showing an inclination to dilate that orifice and encroach upon the cervical canal, can almost always, after due preparation, be removed safely per vaginam.

(3) About one-half of all fibroid tumors, which come under the observation of the physician, require no active treatment of any kind.

(4) Only rapidly growing subperitoneal or interstitial tumors call for or are benefited by galvanic treatment.

(5) The removal by the sharp curette of the hypertrophied mucous membrane of the uterine cavity will often, at least temporarily, relieve the menorrhagia which is the chief symptom caused by the interstitial variety.

(6) Enucleation, after splitting the capsule by means of traction by the finger and some blunt instrument, offers a safe means of cure in cases of interstitial, cervical and submucous corporeal tumors. Certain interstitial tumors, which are so situated as not to be affected by the pressing influence of ergot and influencing the general health by profuse uncontrollable hæmorrhages, and certain cases of rapidly growing subperitoneal tumors, in which a thin pedicle cannot readily be formed, may require the removal of the ovaries to check the hæmorrhage and the growth of the tumor.

(7) Laparo-hysterectomy should never be performed merely to relieve the patient of a fibroid tumor, which does not affect her general health and is merely inconvenient or unsightly.

(8) The nearer the menopause the less likely is the fibroid to grow or cause trouble, and, therefore, other things being equal, less likely to call for active operative measures.

OBSERVATIONS ON THE NATURE AND TREATMENT OF FIBROID TUMORS,

by DR. W. GILL WYLIE, New York.

In tumors that are slow in growth, uterine symptoms are usually absent. If pain and general discomfort are present, the endometrium or the uterine appendages are usually involved. In women over forty years of age small uterine tumors may delay the menopause, but otherwise are not usually significant. Pain and failing health at the time of the menopause is usually an indication that degeneration is taking place and hysterectomy may be indicated. Fibroid tumors, like all organic structures, have their periods of growth and decay. The life of a fibroid is usually from two to eight years. A tumor may be quite large, but give rise to no symptoms. Should it, after a period of quietude, begin to grow again, it may then require removal. Severe symptoms of pressure, degeneration or suppuration were indications for operative treat-

ment. Hæmorrhage, if due only to disease of the lining membrane of the uterus, might be controlled for a year or two by curetting. In case it was not, the tubes and ovaries should be thoroughly removed. Hysterectomy could now be done with comparative safety. His own mortality was but ten per cent., and he thought it could be lowered. He had employed Apostoli's method for two years, and believed that its value had been overestimated. Even if it did no harm, it caused delay, and thus might remove a patient's chance of relief by operation. He did not think strong currents of electricity were advisable during the child-bearing period. While electricity would, undoubtedly, stop bleeding from a hyperplastic endometritis, it might cause damage, and was no more efficient or safe than the curette. His opinion as to the value of electricity was admittedly provisional, as his experience had not been very large.

DISCUSSION.

DR. REAMY approved the conservatism shown in both papers. There was too much disposition to resort to surgical procedure in every case of uterine fibroid. There were very many small tumors which never gave symptoms and the existence of which was not even suspected during life. This fact was of great importance in the consideration of any method of treatment. Martin had recently stated that in thirty per cent. of uterine myomata removed by him, fatty or other degenerative changes were found. As fatty degeneration is the first step in the process of absorption, the inference is, that many of these cases would have gone on to spontaneous cure. These tumors often have a very feeble vascular and nerve supply, so that very little will suffice to interfere with their nutrition. Many may be cured by the use of ergot without the aid of the knife or electricity. He admired Apostoli and his method, but believed he claimed too much. He considered gentle positive galvano-cauterization efficient and perfectly safe. The moderate stenosis which follows is not necessarily bad and may even be beneficial. It does not destroy the possibility of pregnancy. Electro-puncture is dangerous and but rarely to be employed. He had not always succeeded in arresting the growth of hæmorrhage by removal of the tubes. Rapidly growing fibro-cysts in particular he thought always required radical removal. The use of the sharp curette had not been absolutely safe in his hands, as septic symptoms sometimes followed.

DR. GEORGE J. ENGELMANN, St. Louis, said his results did not come up to his expectations, though in many cases they were satisfactory. Excellent results were obtained in cases where the uterus was surrounded by hard inflammatory masses. He had had favorable results in hæmorrhagic cases. In cases where he had used electricity, the patients were not cured, but were rendered comfortable and able to attend to their duties. We should be satisfied with these results from so safe a method. The treatment should be adapted to the individual case and symptoms. There was use for ergot, for the knife, and for electricity. Electro-puncture he thought apt to produce cystic growth and rapid development.

DR. JAMES R. CHADWICK, Boston, has had fatal results in spite of careful following of Apostoli's rules and without puncture. He has employed this method in 24 cases and has seen improvement in but one. He has never seen any marked diminution in the size of the tumor. He has found difficulty in persuading patients to continue the treatment. He has now given the method up. He does not agree with the views of Dr. Reamy and thinks that as Apostoli claims to have discovered a panacea, he could fairly be subjected to severe criticism.

DR. VAN DE WARKER, Syracuse, objected to such sweeping denunciation and said that Apostoli's method had a positive scientific value in the treatment of fibroids. Electricity can promote or even initiate cystic degeneration, even when puncture is not used. A high temperature may follow and persist for months. This he believes may be caused by a ptomiane developed by electrical action. He never would employ a current strength of over 200 milliampères.

DR. M. D. MANN, Buffalo, has used the method for two years, and during this time has only operated twice. He employs the intra-uterine sound and obtains marked improvement in the way of diminished size and lessened hæmorrhage.

DR. MUNDÉ had noted favorable results from several cases of electro-puncture where the tumor has disappeared, but twice the patients were rather seriously ill after it. He had seen peritonitis develop once after puncture, but, nevertheless, he would use it with antiseptic precautions in certain cases. He believes in Apostoli's method to a limited degree.

(To be continued.)

NEW YORK ACADEMY OF MEDICINE. SECTION ON THEORY AND PRACTICE OF MEDICINE.

STATED meeting, October 15, 1889. DR. R. C. M. PAGE, Chairman.

DR. A. JACOBI read a paper on

CHRONIC PERITONITIS WITH SPECIAL REFERENCE TO THE DIFFERENTIAL DIAGNOSIS OF SOME OF ITS VARIETIES.

He stated that most of the cases were of a secondary nature, and having referred to a number of the causes that have been found operative in its production, went on to say that perhaps the most frequent cause of peritonitis is a preceding peritonitis. Indeed, in most cases examined after death, the positive proofs of one or more attacks previous to the fatal one are found. He did not remember a case of peri-typhlitis that did not exhibit the adhesions, discolorations and contractions due to former peritonitis; and he thought it probable that there are but few, if any, cases of foreign bodies entering the vermiform process unless the latter has previously lost its elasticity and contractibility by an inflammatory change.

Alterations of the mucous membrane of the intestine, he said, constitute the initial stages of local peritonitis in many instances and of general peritonitis in some. It is not only the *intima* and the submucous tissues which suffer, but the muscular layer also becomes implicated in the morbid process. The vascular connection between the three principal layers of the walls of the intestine is such as to facilitate the transmission of an inflammatory process from one to another, with the results of giving rise to œdematous infiltration, paralysis and constipation. Thus it is also that a mere diarrhœa is able to develop in a shorter or longer time a local peritonitis. No morbid process can remain isolated in a locality supplied with an active blood and lymph circulation, and hence an

intestinal catarrh grows to be an enteritis; the enteritis a peritonitis.

This condition of things is still more frequently observed in cases of intestinal ulceration, both acute and chronic. Even without perforation an ulceration will lead to peritonitis which is most local, but liable to change into an acute attack under favorable circumstances. Where there is an open ulcer, or even one that has cicatrized months or years before, in the stomach or in the intestine (no matter of what nature) we frequently find opposite it a local peritonitis. In the peritoneal covering there is a thickening, circumscribed and distinct, which in recent cases is rather soft and accompanied by much vascular injection. In old cases the original cell proliferation has undergone organization and hardening, and the thickened spot is gray or whitish and firm. It has lost its elasticity, and is very apt to burst under a moderate amount of pressure, thus leading to perforation. In the midst of apparent health intestinal perforation will often set in, and death ensue within a day; and at the autopsy the physician will learn that the patient has been the victim of the perforation of the cicatrix of a typhoid ulceration perhaps contracted a dozen years before.

The diagnosis of chronic peritonitis is frequently missed. Unsuspected adhesions often exist around tumors, movable kidneys become fixed, intestines become glued together, all without recognizable symptoms. Respiration is not necessarily accelerated, and particularly is this the case in pelvic peritonitis, perimetritis, and peri-cystitis. There may be occasional vomiting, especially where there happens to be an intercurrent catarrh; but there are other conditions, as, for instance, renal and biliary colic, which are more liable to exhibit this symptom and to an excessive degree. It is often entirely absent, and even in many acute cases of peritonitis it is not met with. Constipation is frequent, but diarrhœa is not unusual. The horizontal position is often quite uncomfortable, but a common colic, depending on gas not absorbed or expelled, also causes drawing up of the knees. When, however, the horizontal posture is shunned in chronic peritonitis the patient is more apt to remain quiet with raised knees than one who is suffering from flatulency, in which case the limbs are generally turned about continually. While the abdomen is apt to be tumid, it must be remembered that general adiposity is most fully developed in this region, that women who have borne children are likely to have a large and prominent abdomen, that the abdomen of a healthy infant in so large as to measure one-third of its whole length, that a simple hysterical inflation may simulate the tumefaction resulting from peritonitis, and that there may occur a local dilatation of the intestine from constipation only. Moreover, in hysteria there is sometimes met with an œdematous swelling of both hypogastric regions which will complicate the diagnosis still more seriously.

The surface of the abdomen exhibits net-works of dilated veins more frequently in peritonitis and hepatic diseases than in any other conditions. Inspection may also reveal solitary convolutions rising above the surface, and palpation and percussion may lead to the discovery of exudations of various sizes and shapes, nodules, loops and cakes, which may be either hard or soft and which are either organized material, thickened omentum or intestines glued together. Fluctuation will show the presence of fluid more readily than percussion, which may fail in this, that there may be adhesions between the parietal peritoneum and intestines in the flanks. The gas contained in the adherent bowel would yield the tympanic percussion note, although the region might be filled with fluid. A change of position, from one side to the other or from the horizontal to the vertical posture, or *vice versa*, may contribute to dispel the doubt.

A chronic peritonitis is sometimes diagnosticated in the following manner: The patient is on his back, with the extremities now extended, now flexed. Pressure of various kinds, light or firm, sudden or gradual, superficial or deep, is tried in the usual way. According to the seat of the pain experienced, inflammation or adhesion is made manifest. In many cases however, the following manipulation answers best. With the palm or finger deep pressure is first made. Perhaps there is no pain. Remove the pressure suddenly, and a local very distinct and circumscribed pain may be felt. Repetition of the experiment will always give the same result, the symptoms being elicited by the sudden change in the relative position of the bowels. Not only pain, but the presence of hard floating exudations can be distinguished by this and similar manœuvres.

Every change in the relative position of the bowels may give rise to pain. A sharp pain after a full meal may point to adhesions of the stomach; three or four hours after eating, to chronic colitis; a quickened inspiration or a cough, to peri-hepatitis; pain towards the end of micturition, to peri-cystitis. Pain, of varying degree and persistency, is a very frequent symptom in chronic peritonitis. Its variability often depends on the degree of irritation or congestion present, and acute attacks are frequent where there is a cause for exacerbations. The seat of the pain varies with the location and the extent of the lesion. Extensive peritonitis in the pelvis may not give rise to pain except such as results from defecation, sexual intercourse, or micturition. The pain attending peri-cystitis is quite characteristic; appearing when the urine has been about one-half voided. In this, however, it resembles the spasmodic pain of vesical catarrh, with the exception that it is more localized above the pubes and manifests itself more readily by pressure.

In some cases the pain of chronic peritonitis cannot be diagnosticated from the enteralgia produced by other causes, such as abnormal contents, fermentation and flatulency. Indeed, the anatomical causes of chronic peritonitis give rise to these very conditions: for by it the intestinal movements are retarded and from it there may result stenosis and also twisting and adhesions; and through these every function is seriously interfered with.

The results of chronic peritonitis are very various A simple attack of acute exudation may shape the whole future of the patient, and the histories of previous acute attacks are often not remembered. A few years ago an eminent physician and surgeon in New York, died of peritonitis occurring during convalescence from typhoid fever. He had often complained of enteralgia during the twenty years that Dr. Jacobi had known him, but it was only just before his death that he recalled having had an attack of peritonitis thirty years previously. At the autopsy there were found discolorations of the serous membrane in many places, and degeneration and atrophy of the colon to such an extent as to result in a number of perfora-

tions. From such a case it became evident that the most extensive adhesions and other changes may occur without any known history whatever.

In the latter portion of the paper Dr. Jacobi took up the subject of tabes mesenterica. Having mentioned the various symptoms noted in connection with it, he said that the different manifestations met with in different cases appeared to prove that there are several distinct forms of tabes, depending on different causes and attended with varying anatomical alterations. Besides the simple hyperplasia of the mesenteric glands, resulting in obstruction and tubercular infiltration, terminating in the same disturbance of function, there was a third condition met with, namely, chronic tubercular peritonitis. At the present time we were justified in the belief that only those cases of chronic peritoneal tuberculosis will have a chance of recovery which are local, and not the result of general tubercular infection.

The diagnosis of tubercular peritonitis was apt to be quite difficult, and there were many cases which could not be differentiated from non-infectious peritonitis and simple inflammatory processes. There were, however, cases of tumid abdomen with atrophy of both an acute and chronic character, in which the nature of the affection could be made out with some degree of certainty. When the distention of the stomach appeared after an intestinal catarrh, when it continued after the diarrhœa had ceased in frequency, when the temperature remained high, and the symptoms (occasionally) exhibited a typhoid character, the existence of an acute attack of tubercular peritonitis was probable. This diagnosis was rendered the more probable by the presence of some other symptoms, although mistakes were possible even then. Among these were cough, pulmonary symptoms or dulness over the *manubrium sterni* or below one or both clavicles (pointing to swelling of the tracheal or bronchial glands), a concomitant history of tuberculosis in the family, and a more intense degree of emaciation than the short duration of an intestinal catarrh would account for.

The prognosis of so-called tabes mesenterica was always uncertain except in the very worst cases. It was absolutely fatal when there was peritoneal and glandular tuberculosis complicated with, or depending on generalized tuberculosis. In cases where the diagnosis of a non-infectious hyperplasia of the mesenteric glands could be made out, it was decidedly more favorable. When the diagnosis of chronic peritoneal tuberculosis had been made, the case was less promising; although the possibility of recovery, or partial recovery, was not excluded.

DISCUSSION.

Dr. Francis Delafield, said there were few morbid conditions of greater clinical interest than chronic peritonitis. It was one constantly coming up for diagnosis, and as many mistakes were made regarding it as about any other affection with which he was acquainted. He had been accustomed to look at the disease with reference to the anatomical conditions present, and hence divided the cases into three classes, *first*, those in which there are simply adhesions of connective tissue; *second*, those in which there are present both adhesions and fluid, either serous or purulent; and *third*, those in which there is diffuse thickening with fluid, but without adhesions.

In the first class of cases the condition was often not recognized until it was revealed by an autopsy. The symptoms not infrequently corresponded very nearly with those met with in what is known as "irritable colon," and it was very difficult to distinguish between the two. In many cases it was also difficult to distinguish it from tubercular peritonitis, if, in addition to connective tissue adhesions, there was present a large, waxy liver. Still another condition with which it was likely to be confounded was a dilated pylorus, in which the stomach felt to the touch almost precisely like a mass of intestines matted together. Pain in different parts of the abdominal cavity gave the physician as much trouble as anything else in the way of making a diagnosis, and there was, in fact, very little to distinguish the pains due to different causes from each other.

In the second class of cases, where there was fluid in addition to the adhesions, it was often difficult to distinguish the affection from tubercular peritonitis, and the diagnosis between it and carcinoma was also hard to make out. Again, we were likely to be puzzled by the shape which the peritonitis took. Thus, in certain instances fluid was met with in different parts separated by partitions, and there were the physical signs of a solid tumor with fluid. What seemed like a tumor, however, was simply the intestines matted together.

In the third class, where there was thickening with fluid, but no adhesions, it was difficult to distinguish the condition from tubercular peritonitis, from multiple cancer, and from cirrhosis of the liver. Especially was it hard to diagnosticate it from the latter when the capsule of the liver was involved, since we were apt to have the gastric symptoms and the vomiting of blood which were so often met with in that affection.

Dr. Wm. H. Thomson, also spoke of the extreme difficulty of diagnosis in chronic peritonitis, and stated that personally he had never made the diagnosis of this disease without the mental reservation that the condition present might be something else. He recalled, however, two cases of cancerous peritonitis that had one feature in common which he thought might prove of service in other cases in making the differential diagnosis between this variety and tubercular peritonitis. This was the remarkably low per centage of urea in the urine, and it was not found in other forms of chronic peritonitis. In one of these cases there was present one condition which occurred not infrequently in carcinoma of the peritoneum, namely, a distinct ridge extending across the abdomen, and due to cancerous infiltration of the omentum. In cancer of the stomach, Germain Sée had pointed out a diagnostic sign of some value; tenderness and enlargement of the post clavicular glands, and Dr. Thomson said he had found this condition also present in cancerous peritonitis.

The diagnosis of tubercular peritonitis might possibly be made out by the quantity of urea in the urine remaining normal. Again, in cancerous peritonitis there were met the same fluctuations in temperature that were noted in the tuberculous form. In one case of the latter which he had seen in a young man, there was distinct redness about the umbilicus, a sign of tubercular peritonitis to which Wilks had called attention.

When ascites was present in chronic peritonitis, it rendered it very difficult to distinguish between this

condition and cirrhosis of the liver, and this was notably the case when the history pointed to peri-hepatitis. The previous history of the patient, as to habits, etc., however, would generally throw some light on the matter. It was a difficult thing to account for many of the cases of chronic peritonitis, and some of them, he thought, appeared to justify the use of the term idiopathic as nearly as any affection we had to deal with.

DR. LEONARD WEBER, described a case in which a still-born child, which had been dead for a considerable time before delivery, was found to be the subject of subacute peritonitis, due undoubtedly to syphilis. Another child, three months old, which he was called to attend, had almost from birth presented from time to time all the symptoms of peritonitis, and at the end of the third month it died of this disease. Here, also, the cause of the trouble was syphilis; the infant having, in addition, other well-marked signs of hereditary syphilis. Five years ago, he said, he attended a girl seven years old whose family history was not good; the members of the family showing a tendency to tuberbular meningitis. She had developed chronic peritonitis, and in the course of a year the abdomen had become considerably enlarged. There was ascites, as well as thickening, and the patient was much wasted. By the prolonged use of the hypophosphites and cod-liver oil, and removal to the Catskill Mountains, the fluid and tenderness, and the chronic diarrhœa, from which she was suffering, were gotten rid of; and the last time that he saw her she was perfectly well.

Chronic peritonitis, he went on to say, was met with in abdominal cancer, as well as in tuberculosis, and was also seen in connection with parasitic trouble, not as hydatids of the liver. He had, in fact, never seen a case of true chronic peritonitis which was not of an infectious nature. The cases described in the first part of the paper he would look upon simply as cases where there had previously been acute peritonitis, with accustomed results. Of these, adhesions were the most frequent, and they often had the effect of impeding the functions of the abdominal viscera. He had no objection to calling such cases chronic peritonitis, although personally he did not consider them as true instances of this affection, like the cases to which he had referred. They were not cases of general chronic peritonitis, but exhibited simply the results of adhesions caused by the acute disease, and when in such cases a fatal result occurred, the patient really died of acute peritonitis due to perforation.

As to tabes mesenterica, he believed that this was always a tuberculous affection, and he had been much interested in the recently published reports of the favorable results which had been obtained in this disease by opening the abdomen and dusting the affected parts with iodoform. He had not personally had any experience with this method of treatment, but from what he had read of it he thought it would probably prove a valuable addition to our resources in suitable cases of the disease.

— A veracious daily paper says: "Julian Sterling, of Bridgeport, Ct., lately had his eyeball removed by a doctor to get at a cinder, and while it lay on his cheek, insensate to pain from cocaine, he could see his ear with it."

OBSTETRICAL SOCIETY OF BOSTON.

CHARLES W. TOWNSEND, M.D., SECRETARY.

MEETING, June 8, 1889.

DR. G. H. WASHBURN read by, invitation, a paper on

THE SEDATIVE ACTION OF ELECTRICITY.[1]

DR. BAKER said he had been interested for some time in the use of electricity and he has especially noted the local and general sedative effects which Dr. Washburn has considered in his paper. In cases where a pessary cannot be tolerated from undue sensitiveness of the vagina, he had found the local sedative action of electricity very satisfactory. He recalled the case of a patient coming to him from Dr. Weir Mitchell with the report that the use of electricity in her case was exciting and could only do harm. For nearly two weeks in order to avoid this excitement he had gone through the appearance of giving her electricity, and then began with a very feeble current, gradually increasing it to a strong current. This she bore well, and made a good recovery, which he thought was largely due to the galvanism.

A galvanometer he considered a necessary part of of the outfit.

DR. BLAKE has used electricity with success in cases of amenorrhœa, he had also noticed its sedative action, which he believed was its chief effect in fibroids, and he asked Dr. Baker whether he had seen any material diminution of size in these tumors from its use.

DR. BAKER replied that he felt sure of this.

DR. SINCLAIR spoke of hearing Dr. Apostoli's paper in Dublin two years ago, and he felt that there must be truth in it.

DR. DAVENPORT spoke of the present and exact methods of giving electricity and said that he used the galvanic current for its general sedative action and had lately used the faradic current especially in various forms of pelvic pain, and with more success than by the old method with glycerine and iodine. Especially successful he had found this use two or three times a week in cases of prolapsed ovary, where it not only relieved the pain but helped to draw back the ovary.

In a case whose breasts secreted milk freely, following a miscarriage three years before, he had succeeded in entirely checking the flow after one application of the faradic current; *à priori* one might expect a stimulating rather than a sedative effect in this case. He had found that by a slight increase of pressure of the negative pole on the abdomen he could send up the galvanic current from one of forty to one of seventy milliampères. On this account it is difficult to judge of the strength of the current used. He believed that electrical treatment had a great future.

DR. STEVENS, a guest, spoke of a woman who went about with a small faradic battery and had gained quite a reputation for her power to relieve uterine complaints. He had used galvanism in neuralgias not infrequently.

DR. DAVENPORT said that he used galvanic current for the absorption of old pelvic exudations and he found that the uterine canal becomes enlarged after one or two applications of the galvanic current, he thought that a current of seventy to one hundred milliampères would cauterize.

DR. BAKER had cauterized with as weak a current as one of sixty milliampères.

[1] See page 430 of the Journal.

Dr. Sinclair spoke of one as strong as two hundred and fifty milliampères being sometimes used.

Dr. Baker said that in treating fibroids he applied the positive pole in the uterus or vagina where there was hæmorrhage, but at other times he applied the negative pole there. He still believes as he has expressed before, that the best method is that of Dr. Kimball's, introducing the current through needles plunged into the growth itself. He has used the needles of Dr. Apostoli which are introduced in the canal of the uterus, but he thinks this method is inferior, except in cases of small multiple tumors, to the method of Dr. Kimball. The latter method saves much time and is not dangerous.

Dr. Baker had never seen miscarriages from the use of even a strong faradic current given at the first or second month, while a single application with one pole at the sacrum, another at the cervix uteri will bring on the flow in delayed menstruation. He thought that this would be a very safe way of determining whether a woman was pregnant or not.

Dr. Driver, a guest, questioned whether an abortion at the second or third week might not be mistaken for a delayed catamenial period.

Dr. Townsend reported

A CASE OF DELIVERY OF THE BREECH BY THE FORCEPS.[2]

Dr. Green said that this was an interesting illustration of the use of forceps in this class of cases. He believed that harm was often done by the use of the fillet or blunt-hook, and that the danger of drawing down a leg in such a case as the writer described was considerable. If the forceps can be used in such cases, a very important addition is certainly made to our powers. The former experience of Dr. Richardson and himself on the cadaver was opposed to the use of the forceps on the breech, as the instrument generally slips, and, therefore, he had not taught their use in these cases. This may perhaps be changed in the future after experiences like the writer's in these cases.

It seems strange that cephalhæmatomata should have appeared in this case unless as the writer suggested the child was a bleeder. Is it possible that the compression of the breech by the blades of the forceps had caused a flow of blood to the head?

Dr. Sinclair said that he regarded cephalhæmatomata simply as coincidences and that in his own practice they had occurred in the most simple labors.

Dr. J. P. Reynolds said that in normal delivery by the breech great pressure was exerted on this point without causing cerebral hæmorrhage.

Dr. Townsend in closing, said, that as the cephalhæmatomata did not begin to appear till the fourth day he did not see how anything occurring during the labor could be the cause.

He asked the question whether any of the members had used the forceps in these cases.

Dr. J. Stedman afterwards said that he had in a very similar case delivered the breech successfully with the forceps. None of the others present had used them in breech cases.

— A London correspondent of the *Cincinnati Lancet-Clinic*, says that a young medical student in a London Hospital found by the ophthalmoscope in a glass eye "choroiditis with detached retina."

[2] See page 432 of the Journal.

Recent Literature.

Hand-Book for the Hospital Corps of the United States Army and State Military Forces. By Charles Smart, Major and Surgeon United States Army. Approved by the Surgeon-General of the Army. New York: Wm. Wood & Co.

This little book treats of hospitals and hospital duties, anatomy and physiology, the elements of first aid, intelligent nursing and ward supervision. That such a book is a necessity in the hospital corps is quite apparent, and it evidently well fulfils the purpose for which it is intended, but it is questionable whether it is necessary for so large a share of the work (136 pages) to be devoted to anatomy and physiology. Major Smart has carefully elaborated all the anatomical and physiological facts bearing on the nursing and care of patients.

We notice one or two omissions of important subjects, such as the directions for the giving of enemata, care of catheters, syringes, etc. On the whole, however, the work is well done, in that it is conveniently paragraphed, neatly bound and has an excellent index.

Operations of Surgery: A Systematic Hand-Book for Practitioners, Students and Hospital Surgeons. By W. H. A. Jacobson, F. R. C. S., Assistant Surgeon in Guy's Hospital, Teacher of Operative Surgery and Joint Teacher of Practical Surgery in the Medical School, Surgeon to the Royal Hospital for Children and Women. With 199 Illustrations. Philadelphia: P. Blakiston, Son & Co. 1889.

In this work Mr. Jacobson has undertaken the difficult task of writing a systematic hand-book of operations in surgery with a minute attention to detail. It certainly is one of the most comprehensive works that has come to our notice, and will doubtless be turned to by the practical surgeon, desirous of "looking up" an operation, with a great deal of satisfaction.

With the influx of new surgical procedures that each journal brings forth, it is a particularly trying and difficult task to write a work completely abreast of the times; in fact, such a work would be unsatisfactory, in that in hand and text books we expect to find only that which time and experience have proven to be of value. In many operations Mr. Jacobson has satisfactorily met this difficulty by stating his personal views, which evidently are based on a very wide experience, to assist the surgeon in a selection of an operative procedure.

The personal experience of the writer is introduced into the work in a very satisfactory manner. There is an absence of the personal pronoun, and the deductions which he makes regarding the relative merits of operative procedures are advanced in a positive, judicial manner.

Many of the difficulties met with at the time of an operation, and the troubles ensuing after an operation, which are only known to the practical surgeon, are brought out prominently in this book. The work does not in any manner supplant such a book as Stephen Smith's Operative Surgery, but would rather be an addendum to that work, in that it deals with operative procedures more in detail.

The text is clear, concise and well illustrated. The book itself is bulky and the binding extremely unsatisfactory. We commend this book to all practical surgeons.

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THE DISPOSAL OF THE SPUTA IN PHTHISIS.

THERE is now general agreement as to the danger of communication of phthisis by the inhalation of the dried products of expectoration. Experiments on animals compelled to inhale sputa-dust have demonstrated this; such experiments were formerly made by Tappanier, and have recently been made by Cornet. This experimenter also claims to have determined a curious fact by collecting the dust and débris from wards in which phthisical patients were confined, and inoculating these products in animals. Of twenty-one phthisical wards, fifteen, or two-thirds, contained the tuberculous virus. The patients were in the habit of spitting upon their handkerchiefs, as well as into spittoons. But in a third of the wards no infectious material was found in the air or on the walls; and this immunity was attributed, not only to the presence of spittons, but also to the precautions enforced to prevent expectoration upon the handkerchiefs or cloths, and the pains taken to promote general asepsis and cleanliness.[1]

Often repeated analyses have proved that the sputa of phthisical persons in very many instances contain Koch's bacillus, and are therefore likely to convey contagion to the predisposed. The chain of evidence seems to be sufficiently complete.

It would seem, then, that the requirement insisted upon by the French Commission, — that the constant use of spittoons should be obligatory on the phthisical, and that they should not be allowed to expectorate on the floor, on carpets or mats, or even, except under peculiar circumstances, on cloths or handkerchiefs, — should be enforced, both in hospital and private practice. In advanced cases of phthisis, it may not be possible for patients to use spittoons, and they may be obliged to expectorate on pieces of cloth or toilet paper; these should be immediately burned.

It is advised that phthisical patients in their daily walks ought to be enjoined not to spit on the ground, on the sidewalk, etc.; this requirement will be difficult of execution unless such patients be provided with a portable spittoon which they are willing to use in public. Spittoons may be placed in all public rooms, in corridors, closets, about places of promenade, and kept partly filled with water, never with sawdust, ashes, or any other dry material.

Spittoons should not be emptied into privies or water-closets, or upon the soil, but into the fire; or they may be dealt with as Hassal advises in the *Lancet*: "A covered vessel of suitable size, and provided with a rod, should be partially filled with a strong bichloride of mercury solution, and into this the contents of the spittoons should be daily emptied, until it becomes necessary to dispose of the accumulated but now harmless sputa, which may then safely be done by means of the closet or soil. The use of the stirrer is necessary, in order to break up the sputa and allow of the effective action of the germicide."

The sanitarily-ideal apartments furnished to consumptive patients are to have no curtains, carpets or hangings; and where mats are required, they should be of some non-absorbent material, as rubber cloth. Such patients should be required to sleep alone, and their clothing and bedding should be kept entirely apart from that of other lodgers. Frequent boiling and cleansing of bed-linen and under-clothing should be enjoined. When a phthisical patient has vacated a room, or has died, the same cleansing and disinfectant measures should be carried out as after a case of an ordinary infectious disease, as scarlet fever or diphtheria.

All these precautionary measures are simple corollaries from facts which have been obtained the past few years as to the parasitic nature of tuberculosis, and the contagiousness of phthisical sputa. Their enforcement ought to diminish the extension of tuberculosis, but would scarcely increase the content and comfort of the great army of the phthisical.

[1] Bulletin de l'Academie de Médecine, August 23, 1883, August 30, 1883, August 6, 1889.

THE REHABILITATION OF THE SPITTOON.

As a further reflection upon the subject of leading editorial mention in this journal, it occurs to us to refer to a paper by Dr. Kretzschmar before the American Public Health Association at its recent meeting at Brooklyn. The ground taken by the speaker was, as might be supposed, not in the interest of the tobacco-chewer, nor of his non-chewing neighbors and victims; it was solely for the hygienic protection of the community against tuberculosis.

"If the spittoon occupied the place in the affairs of modern life that it deserved," said the speaker, "there would be far less danger of pulmonary consumption." "Where do you find spitboxes?" he asked. "Not in the streets, not in the ferry-boats, not in the street railroad cars, not in the steam railway cars, except in a few palace cars." Expectoration in one's handkerchief the speaker showed was most dangerous. It was of the greatest importance that the rooms in which con-

sumptives lived should have no carpets. Linoleum or oilcloth was to be preferred.

And so this humble utensil, which ever since the days of Dickens' "American Notes" has stood as a by-word and reproach against American social usages, is at last given public recognition as an important instrument of service to the public health.

Now, if the public cuspidor can be properly disinfected; better still, if it can be made of pasteboard, and burned when used; best of all, if it can be used by the tuberculous as well as by the nicotinous subject, we shall welcome it with the intelligence, however the æsthetic gorge may rise at it.

TREATMENT OF POST-PARTUM HÆMORRHAGE BY CURETTING THE UTERUS.

MISRACHI, of Constantinople, has published, in the *Bulletin Général de Therapeutique* (August 30, 1889), an article on the treatment of post-partum hæmorrhage by curetting and swabbing out the uterus. This, it will be remembered, is now a favorite method with some gynecologists of treating the uterus for hæmorrhage following abortions, and, doubtless, often meets the indications better than any other means, as when the endometrium is in a septic, sloughy condition, with *débris* of membranes remaining.

Misrachi claims that it has now been sufficiently demonstrated by his own experience and that of other *accoucheurs* that one may with impunity scrape out or curette the uterine cavity after labor at full term, and thus remove a source of infection.

After enumerating the various causes of post-partum hæmorrhage, he admits that the only conditions calling for curetting are: (1) clots in the uterine cavity, (2) retention of portions of the placenta and its membranes. He reports cases where curetting and thorough swabbing of the uterus succeeded in arresting hæmorrhage and saving life where frequent antiseptic injections and all other means had failed.

The instrumental apparatus which he employs consists chiefly: (1) of Lewis' speculum, (2) of a peculiar curette of his own invention resembling a rasp with a long handle, he calls it a scraper (*racleur*); it is dentated on one of its faces in such a way that the teeth, which are very blunt, are turned toward the handle of the instrument. His swab (*écouvillon*) is a long corkscrew arrangement (or sort of gimlet) made of wire terminating in a solid shank; the various turns of the wire are covered with cotton, or some other soft material. This, before using, may be dipped in a mixture of equal parts of tincture of iodine and glycerine. This instrument effectually entangles and removes all loose débris. The use of the curette and swab should be preceded and followed by an antiseptic irrigation with a sublimate solution, 1–2000.

His conclusions are as follows:

(1) Secondary hæmorrhage, *post-partum*, is an accident always embarrassing, always dangerous, and it is important that it be stopped as soon as possible.

(2) Intra-uterine injections, which constitute an enormous progress over the methods of treatment previously employed, are not always efficacious, and often demand a considerable time in order to obtain the final cure.

(3) The antiseptic dressing of the uterus by means of the swab, and any other instrument which may be deemed most suitable, is a method of treatment as inoffensive as, and much more rapid and efficacious than, the intra-uterine injections.

MEDICAL NOTES.

— The fourteenth annual meeting of the Association of Surgeons of the Pennsylvania Railroad Company, was held recently at Pittsburgh, Pa.

— San Francisco has a Chinese physician, Li Po Tai, whose professional income is stated to be $6,000 per month. He has been established in that city for thirty years.

— The test of responsibility when insanity is pleaded as a defence in a murder trial was clearly and tersely stated by Judge Moore in charging the jury in the McElvaine case in New York, recently: "If you believe that the defendant at the time he stabbed Mr. Luca knew the nature and the quality of the act he was doing, and knew it was wrong to do it, you must adjudge him a sane man."

— Mayor Kiesel of Salt Lake City, has called the attention of the City Council to the fact that the city was without a hospital, and that there was great need for such an institution; and in case of contagious disease, the city physician would have great difficulty in dealing with it for want of a proper place to send the patients to. The Union Pacific Hospital is devoted exclusively to the use of railroad men who are injured on the road, and it is not possible to place city patients in this hospital.

— Dr. J. L. Posey of the Marine Hospital Service, on duty at Jacksonville, Fla., telegraphs to the bureau that Dr. Porter reports another sporadic case of yellow fever at Key West, Fla., and in consequence quarantine restrictions have been resumed. The patient is Mr. E. Ellinger, who left Havana, September 21st, for New York, by sea, came from New York by rail to Key West, October 2d, and was taken sick October 21st in a locality of the city distant from that of the former cases.

Quarantine restrictions which had been raised by the State Board of Health were hastily put in force again two days later. The diagnosis of yellow fever, it may be said, has been strongly disputed.

— St. Luke's Hospital, New York, is in need of financial assistance. This fact was demonstrated at its recent annual meeting. The total amount of the trust funds is $659,089,72, all of which is invested according to the laws governing such funds, and the interest revenue amounts to $31,899,68. The general

expenses of the hospital for the past year aggregated $92,008,27, and it cost $12,577,25 to improve the property. The Financial Committee's report shows that for years there has been a lack of current income to meet the yearly expenditures, which at present amounts to a yearly deficit of about $15,000. The Board of Managers have been obliged to give the note of the corporation for $34,500 to close the fiscal year, and thus meet the deficit for the past two years. It will therefore be seen that the hospital is spending the income at present rates of interest on $2,000,000, on a capital of $659,089,72.

— Dr. Daniel Ayres, Emeritus Professor of Clinical Surgery, in the Long Island College Hospital, has been extremely liberal with his fortune toward institutions of learning. Last April he added to his many endowments $25,000 to Wesleyan University, toward the establishment of a chair in biology. This gift he completed a few days ago, when he deeded to the university eighty-six acres under cultivation at Montclair, N. J., valued at about $30,000. The gift has not yet been formerly accepted by the trustees, but it will be acted upon at the December meeting of the Board. Every other department of the university had been endowed years ago, Dr. Ayres said, except this one, notwithstanding the fact that it was in charge of a most competent professor, Dr. Conn. The condition is imposed that the money realized from this real estate shall be used solely for the department of biology. The consideration that led to the bestowal of this money is said to be the fact that, in 1841, after he had studied at Wesleyan University three years, Dr. Ayres left it, because it was not equipped to give the students sufficiently advanced instruction in natural science.

— Cable dispatches state that William N. Pethick, Vice-Consul in charge of the United States Consulate at Tien Tsin, China, has notified the Department of State of an important step taken by Li Hung Chang, Grand Secretary of State for China and Viceroy of the Province in which Tien Tsin is located. Li Hung Chang has decided to establish a medical service for the Chinese Army and Navy on the basis of the best Western models. That he may have the best of these to study he has asked Mr. Pethick to solicit the help of the State Department in obtaining a complete collection of the present regulations and various official publications for several years past of the medical department of our army and navy, including the organization and management of hospitals and ambulance service, and the Surgeon-General's report on our late war. The proposed service is to be under a foreign surgeon-general with an adequate staff of assistants. It will include hospitals and dispensaries at various places, a medical school, and native surgeons for the fleet and the military stations of North China. A start will be made, the Vice-Consul says, with a number of young men, educated in the United States several years ago under the Chinese Educational Mission and who have studied medicine under foreign teachers since their return to China. In accordance with the suggestion of the Vice-Consul the State Department will ask the War and Navy Departments to provide the documents requested to be transmitted to Li Hung Chang.

— A New York daily contemporary has collected some interesting points of interest and of comparison between the health of London and that of New York. The deaths in London last year numbered 78,848, or 18.5 per 1,000; in New York 40,175, or 26.33, and in Paris 22.6 per 1,000. The birth returns for New York are incomplete, but the birth-rate in London was 30.7 per 1,000; in Paris 27.0. The male births in Paris were 30,723, the female births 29,913. In London the numbers were: Males, 66,629; females, 64,-451; but in the total population of London there is a majority of 250 females. Premature births in New York numbered 1,155; in London, 2,099. To be equal, the figures referring to New York should only be a third. New York compares unfavorably with London in the matter of suicides. There were 247 in New York and 400 in London. Between 800 and 900 persons take their own lives in Paris every year. In New York 1,138 were killed by accidents; and in London 2,516. There were only 1,892 deaths from bronchitis in New York, while in London there were 10.085. But while some hundreds die every year in London as the result of idleness and obesity, sixty-one deaths were recorded last year from starvation. A decreased death-rate is invariably accompanied by a lower birth-rate. The deaths in London last year were the lowest on record; the births the lowest since 1841. In the western districts, where the wealthy reside, and where the degree of comfort is high, the deaths fell to 16.4, and the births to 25.5; but in the impoverished and overcrowded east, where the poor never get a breath of fresh air, and are huddled together in unhealthy alleys, the deaths rose to 27.2, and the births to 36.5. The people least able to support children are the most prolific, and the higher the degree of social comfort and well being, the less the increase of population.

BOSTON AND NEW ENGLAND.

— There are at the present writing six patients at the small-pox hospital on Canterbury Street, West Roxbury. It is thought that but one of the cases at the hospital will result fatally, that of Thomas F. Campbell, who was found to be stricken with the disease by Dr. Elliott, at the boarding house 153 Richmond Street.

— Some of the physicians, clergymen and other professional men of Malden, Mass., recently held a meeting to take additional action regarding the proposed hospital in Malden. Dr. J. L. Sullivan presided. The meeting decided to secure the incorporation of the Hospital Association. It was stated that a fine, elevated lot of land at the head of Murray Street, at the West End, is at the refusal of the Association. The money needed for the building, land and furnishings is about $40,000, and there has already been subscribed

$12,050. Papers are in circulation for other subscriptions. There is to be a course of entertainments given in the Opera House in aid of the hospital fund.

— The Elliot Hospital at Manchester, N. H., has just been formally accepted by the trustees. The building is a massive structure three stories high, with round towers rising at each side of the entrance, which is situated on the west side of the building. The edifice is built of brick, with brown-stone trimmings, and is arched over the main entrance. The rooms are all ventilated through zinc flues which communicate with the chimney. The building is heated by steam, two boilers furnishing both direct and indirect radiation; but in all of the larger rooms there is a fireplace, and in the women's ward there are two of these luxuries. In all the rooms there are electric bells and speaking tubes, and the building is piped for gas.

— This is the fiftieth year of ex-Governor Alonzo Garcelon's practice of medicine in Lewiston, Me. Now seventy-six years old, he is constantly at work, driving from fifteen to forty miles every day. He has been personally acquainted with five generations of his own family, and is now visiting professionally families in Lewiston whom he has attended for five generations. He is said to have lately proposed the following conundrum: "I am now visiting regularly," said he, "a family composed of the following relatives, all living under one roof; One great-grandmother, two grandmothers, three mothers, one grandfather, one father, three sons, one great-grandson, one grandson, six sisters, six daughters, one daughter-in-law, two great-aunts, five aunts, one uncle, three brothers, one widow, one step-daughter, four granddaughters, one great-granddaughter, one great-grandson, two wives, one husband, one grand-nephew, one grand-neice, four neices, two nephews. The question is, said the Doctor, "how many people are there in the house?"

NEW YORK.

MEETING OF THE NEW YORK COUNTY MEDICAL ASSOCIATION. — EXPENSES OF HEALTH DEPARTMENT. — CASE OF YELLOW FEVER.

— At a meeting of the New York County Medical Association held October 21st, Dr. John Shrady read a memoir of the late Dr. Alexander B. Mott; after which an appropriate minute in regard to the death of Professor Mott was adopted. Dr. A. M. Fernandez presented a specimen of double fœtus, united at the thorax and upper part of the abdomen, whose birth he attended in September. The children were a little more than six months advanced in fœtal life, and were delivered without any special difficulty; presenting feet foremost, but being born dead. One of them measured fourteen inches in length, and the other thirteen and one-half inches; weight four and three-fourth pounds. They were both males and well-developed, and their faces were turned toward each other. They were united throughout the entire length of the sternum and the upper part of the abdomen; there being but a single liver, which was of large size. The placenta was delivered in about twenty-five minutes, and there was but one umbilical cord. The uterus contracted well, and the mother, who was a Cuban lady temporarily staying in New York, recovered without any accident.

On the same occasion Dr. George S. Harrison read a paper on the "Podalic Version in Contracted Pelvis," in which he warmly advocated this procedure in a large proportion of cases. He especially deprecated the putting in contrast of version and the forceps, as so frequently done by obstetrical writers, and expressed the opinion that when version is still practicable, the forceps is contra-indicated; while on the other hand, when the forceps is indicated, the time for turning has already passed. The objections to the use of the forceps in high-standing head, he said, were mainly two-fold. In the first place, the forceps grasps the head in the fronto-occipital diameter, so that the tendency is to enlarge the transverse diameters, which have to pass the conjugata, and at the same time to prevent the over-riding of one parietal bone upon the other. In the second place, it is not in the power of the forceps to accomplish the inflection of the bones, which is an important factor in the moulding of the head.

The advocates of version, he said, were divided into portions, according as they respectively formulated the therapeutical indications. The one side recommended waiting, as long as the passage of the child's head appeared possible and devoid of danger; while the other side sought to avoid the possibility of a perforation, by a *prophylactic* version, before any symptom of danger threatened the mother. Dr. Harrison said that for years his own practice had been based upon this view, and that he could not too strongly urge the advantages of this method of procedure. Long ago Sir James Y. Simpson had argued that the protraction of labor was *per se* dangerous both to the mother and child, and that any operation was dangerous and fatal in proportion to the length of time allowed to elapse before the artificial delivery was accomplished. For these reasons he declared that in proportion as turning was practiced earlier, so far would it be attended by greater safety and greater success.

— The Board of Estimate and Apportionment has cut down the appropriation for the expenses of the Health Department for the year 1890 from $417,096, the sum asked for, to $391,500. Among the items in which the allowance is reduced are hospital supplies, $4,800, and disinfectants, $3,700. For the present year the total allowance for the department was $413,600.

— Just as the British steamer *Hondo* from Greytown and Belize was entering port on the morning of October 23th, one of the saloon passengers died of a fever which was regarded as suspicious in character, and the vessel was detained at quarantine and thoroughly fumigated. The autopsy showed conclusively that the cause of death was yellow fever, and the body was taken to Swinburne Island and cremated. There was no sickness among any of the other passengers or among the crew.

Correspondence.

[From our Special Correspondent.]

PARIS LETTER.

CONGRESS OF HYDROLOGY. — CONGRESS OF FRENCH SURGERY.

PARIS, October 18, 1889.

MR. EDITOR, — Of the numerous International Congresses that have been held in Paris since the opening of the Exhibition in May last, there has been none more important or interesting than the Congress of Hydrology, which has just terminated its meetings. The object of this congress was to elucidate a certain number of those obscure problems which concern the nature and therapeutic value of mineral waters.

One of the most original memoirs produced at the congress was that of Dr. Schlemmer, on microbes and thermal waters. According to the author, there is found a certain number of microbes in these waters, but far from offering any danger the microbes of mineral waters seem, on the contrary, to possess beneficial properties. It is thus that in certain springs of Vichy, Chantemesse and Frémont have isolated a micrococcus possessing a most pronounced digestive power on albuminoid alimentary substances, which it transforms into peptones. With the knowledge of this fact, it will be seen that it is impossible to imitate this natural mineral water by the aid of the bicarbonate of soda. No artificial, chemical combination would be capable of conferring on a water this micro-organic life, any more than of conferring upon it the electro-dynamism of telluric elaboration.

The origin of the gases contained in the mineral waters were well demonstrated by Dr. Labat. He stated that whether they proceed from the air or from watery vapor, or whether they are manifestations of the soil or of volcanoes, the gases do not ordinarily play a preponderating rôle in the curative action of mineral waters. Nevertheless, nitrogen is an agent distinctly sedative and anti-catarrhal; sulphuretted hydrogen, a modificator of the skin and of mucous membranes, carbonic acid, an excitant of the blood-vessels and nerves. It is capable, for instance, of arousing the languishing functions of the digestive mucous membrane.

Dr. Durand-Fardel, the renowned veteran of hydrological science, read a programme of instruction for the benefit of medical men, in order that they may learn how to use these waters as they do other therapeutic agents. The author remarked that it is unfortunately too true that the necessity for such instruction is greatly felt.

Drs. Constantin Paul and Bouloumié communicated to the congress very remarkable reports on the resources which the Thermes of France offer for the treatment of the heart and of the blood-vessels, and for that of chronic affections of the kidneys.

Dr. Caulet called the attention of practitioners to the possible cure of grave utero-ovarian neuralgia for which thermal treatment is essentially beneficial. He took the opportunity of bringing these facts to notice at the moment when surgeons, forgetting the mishaps of operative intervention, attempt to cure such affections by the ablation of the painful genital organs.

Dr. Grimaud claims for chloruretted and sulphurous waters the most extensive curative power in osseous and articular affections of tubercular or scrofulous origin. The sulphurous group is better suited for the suppurating period of osteo-articular lesions. Sea-bathing also acts as a tonic, resolvent and reconstituent, but, as recalled by Dr. Jules Simon, it has the inconvenience of an exciting and enervating maritime atmosphere, which is much to be feared for children who are already neuropathic, and in whom the power of reaction is rather weak.

The fourth Congress of French Surgery was held in Paris from the 7th to the 13th of October, under the presidency of Baron Larrey. The meetings were largely attended, and some of the papers read were most interesting. I cannot, however, in the space of an ordinary letter do more than refer briefly to some of them.

Dr. Bloch, of Copenhagen, read a note on practical modification of the antiseptic method. He remarked that the method of the antiseptic treatment of wounds which is now employed, has this inconvenience, namely, that the material for dressing rapidly loses, after its preparation, a part or the whole of its antiseptic value. Moreover, the preparation of these pieces of dressing in great abundance is not sure, and it exposes the use of them to certain dangers. The author, therefore, recommends that the material for dressing should be sterilized and put up in packets, which are not to be opened until required to be used. The antiseptic selected is then applied to the material, and being thus freshly prepared loses nothing of its qualities.

Dr. Roux, of Lausanne, made a communication on the treatment of suppurating perityphlitis. This surgeon is a partisan of the incision being made as soon as pus is detected, and thus avoid peritonitis and stercoral fistulæ. The following is the procedure adopted by Dr. Roux: By the aid of an incision analogous to that for the ligature of the iliac artery, the surgeon seeks for the cœcum and the appendix vermiformis. If one or other of these parts gives to the fingers the sensation of infiltrated tissues, one may affirm the presence of a purulent collection, which is almost always met with in continuing the examination. The dangers of peritonitis are avoided by the early opening of the abscess, and the surgeon has nothing to fear during the examination, as after the third day, the adhesions are sufficiently numerous to prevent the opening of the peritoneum. Dr. Roux insists on the advisability of early surgical intervention in the treatment of suppurating perityphlitis, as there is a too great tendency to abstain from all active measures in these cases, under a false notion that spontaneous cure is the rule. At the same time he would not have it supposed that every case of perityphlitis should be operated on, but the expectative treatment should not be too much prolonged.

Dr. Demons, of Bordeaux, read a note on the value of the capillary punctures of the intestines in certain cases of intestinal obstruction. He referred to cases where the intestinal occlusion was determined by sub-peritoneal inflammation, which may, at a given time, determine compressions, and thus arrest the course of the fæcal matters. Dr. Demons had recourse in six cases to the puncture of the intestine by the aid of Dieulafoy's aspirator, and with very encouraging results. He, therefore, thinks that the medical man has thus in his hands a powerful means which is susceptible, in certain circumstances, to avoid the necessity for a laparotomy.

In a paper, on the immediate and distant results of operations practised for local tuberculosis, Dr. Le Dentu, of Paris, stated that operations undertaken against local tuberculous affections are frequently efficacious, on the condition that they are performed early and in a complete manner. He thought that in ridding the organism of the foci of infection, one might shelter the patients from ulterior visceral accidents, of which peripheric tuberculosis would have been the starting-point. He often noticed that the existing tuberculous lesions, which had not been directly interested in the operative act, were often beneficially influenced, and far from being aggravated. He had thus seen anal fistulæ amended and disappear spontaneously after operations on tuberculous knees. Hence, he would consider that the multiplicity of tuberculous determinations would constitute an indication than otherwise for operating.

Dr. Schwartz, of Paris, expressed the opinion that operative interventions for local tuberculosis are the more favorable according as the localization is the more limited, and that the subject may, after the operation, be placed in the most hygienic conditions. There are cases, however, in which visceral tuberculosis was observed in patients who had been operated on for local tuberculosis, or even for any other cause, but who were suspected of having a tuberculous taint.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 19, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	641	226	17.28	12.80	7.20	1.92	5.28
Philadelphia	1,040,245	327	116	11.10	12.90	1.20	2.70	7.50
Chicago	830,000	—	—	—	—	—	—	—
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	165	55	14.03	12.20	4.27	3 66	4.27
St. Louis	450,000	164	67	16.47	8.54	3.66	2.44	9.93
Boston	413,567	175	45	12.54	14.25	1.71	3.42	6.27
New Orleans	250,000	107	25	9.34	18.68	2.79	—	1.86
Cincinnati	225,000	102	—	16.66	13.62	3.92	.98	8.82
Washington	225,000	100	48	22.00	8.00	8.00	4.00	8.00
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	25	8	8.00	12.00	8.00	—	—
Charleston	60,145	—	—	—	—	—	—	—
Portland	40,000	13	2	2.69	7.69	—	—	7.69
Worcester	78,292	22	7	13.62	22.70	—	9.08	—
Lowell	71,518	22	8	27.24	18.16	4.54	—	22.90
Cambridge	65,552	25	6	12.00	28.00	8.00	4.00	—
Fall River	62,647	25	7	32.00	8.00	8.00	—	20.00
Lynn	53,334	19	—	—	31.56	—	—	—
Springfield	40,731	13	4	15 38	38.45	—	—	7.69
Lawrence	40,619	20	11	30.00	5.00	5.00	—	25.00
New Bedford	37,253	16	5	30.75	12.50	30.75	—	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	13	—	23.07	—	7.69	—	15.38
Brockton	28,813	—	—	—	—	—	—	—
Chelsea	28,167	4	—	—	8.00	—	—	—
Haverhill	26,058	—	—	—	—	—	—	—
Taunton	25,170	—	—	—	—	—	—	—
Gloucester	24,263	1	—	—	—	—	—	—
Newton	21,553	5	2	20.00	—	—	—	20.00
Malden	19,774	6	1	—	33.33	—	—	—
Fitchburg	17,534	8	4	12.50	25.00	12.50	—	—
Waltham	17,332	9	4	11.11	33.33	11.11	—	—
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	8	1	12.50	—	—	—	12.50
Quincy	13,728	8	3	12.50	—	—	—	—

Deaths reported 2,043: under five years of age 635; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 319, consumption 269, acute lung diseases 216, diphtheria and croup 129, diarrhœal diseases 95, typhoid fever 45, whooping-cough 15, scarlet fever 12, malarial fevers 13, measles 1.

From whooping-cough, New York 5, Philadelphia 3, Boston and Washington 2 each. Baltimore and Cincinnati 1 each. From malarial fevers, New York 6, New Orleans 5, Baltimore 2. From scarlet fever, Philadelphia 5, St. Louis 4, New York 3. From cerebro-spinal meningitis, New York 3, Cincinnati 2, Philadelphia, Worcester, Fall River and Quincy, 1 each. From measles, New York 1.

OBITUARY. PHILIPPE RICORD, M.D.

Dr. Philippe Ricord, whose death we briefly referred to last week, was born at Baltimore on December 10, 1800. He was the grandson of a distinguished physician of Marseilles, and the son of a once wealthy shipowner and member of the Compagnie des Indes, who came to the United States in 1790, in the hope of retrieving his fortunes. Philippe Ricord was the brother of Jean Baptiste Ricord, an accomplished physician, scholar, musician and painter, and of Alexander Ricord, once a physician in the French Navy. After pursuing a course of scientific studies with his brother Jean, Philippe began the study of medicine in Philadelphia. In 1820, he visited Paris, taking with him a collection of animals for the National Museum. In 1826, he received the degree of M.D., and began to practice at Olivet, near Orleans. In 1828, he returned to Paris, and delivered a course of lectures on surgery; and in 1831, he was appointed surgeon-in-chief to the Hôpital des Veneriens du Midi. At this hospital, from which he retired on account of age in 1860, he gained a great reputation as a specialist. By a decree of July 28, 1862, he was appointed physician-in-ordinary to Prince Napoleon; and on October 26, 1869, he was named as consulting surgeon to Napoleon III., whom he had attended during a recent illness, and who in return had presented him with a snuff-box and 20,000 francs. He was made a commander of the Legion of Honor in 1860, and a grand officer in 1871, for services as president of the ambulance corps during the siege of Paris. He also received many foreign decorations. He continued to practice his profession until his death. Among the many publications of his long life, we can mention only a few: "De l'Emploi du Speculum" (1833), "De la Blennorrhagie de la Femme" (1834), "Monographe du Chancre" (1837), "Traité des Maladies Veneriennes" (1838), "De l'Ophthalmie Blennorrhagique" (1842), "Clinique Iconographique de l'Hôpital des Veneriens" (1842–'51), "De la Syphilization, etc." (1853), "Lectures sur la Syphilis" (1854).

OBITUARY. IRA H. BARTHOLOMEW, M.D.

Dr. Ira Hawley Bartholomew, aged sixty-one, ex-Member of the Michigan House of Representatives, ex-President of the State Medical Society, ex-President of the Michigan Agricultural Society, and who held the office of Mayor of Lansing for three consecutive terms, died October 18.

BOOKS AND PAMPHLETS RECEIVED.

The Value of Creosote in Fifty Cases of Disease of the Air-Passages. By Wm Perry Watson, A M, M.D., of Jersey City, N. J. Reprint. 1889.

A Treatise on the Science and Practice of Midwifery. By W. S. Playfair, M D, LL.D. F.R.C.P, etc. Fifth American, from the seventh English Edition. With notes and additions. By Robert P. Harris, M.D. Five plates and 207 illustrations. Philadelphia: Lea Brothers & Co. 1889.

An Experimental Study in the Domain of Hypnotism. By Dr. R. von Krafft-Ebing, Professor of Psychiatry and Nervous Diseases in the Royal University, Gratz, Austria. Translated from the German, by Chas. G. Chaddock, M.D. New York: G. P. Putnam & Sons. 1889.

A Text-Book of Animal Physiology. With introductory chapters on general biology and a full treatment of reproduction. For students of human and comparative (veterinary medicine, and of general biology. By Wesley Mills, M.A., M.D., L.C.P L, etc., with over 500 illustrations. New York: D. Appleton & Co. 1889.

The meteorological record for the week ending Oct. 19, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps: –

Week ending Saturday, Oct. 19, 1889.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.		3.00 P. M.	Daily Mean.	7.00 A. M.		3.00 P. M.	7.00 A. M.		3.00 P. M.	7.00 A. M.		3.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday,...13	30.10	44.0	47.0	40.0	92		62	77.0	N.		N.E.	14		17	R.		O.	14.30	1.12
Monday,...14	29.99	43.0	46.0	40.0	92		85	88.0	N.		N.E.	24		24	R.		R.	12.40	.74
Tuesday,..15	30.01	48.0	53.0	44.0	65		70	68.0	N.		N.	19		15	C.		C.	4.20	.10
Wednes...16	30.20	44.0	49.0	38.0	62		67	64.0	N.		N.E.	10		3	C.		C.		
Thursday,.17	30.07	43.0	51.0	35.0	76		79	78.0	N.W.		S.	2		12	C.		O.		
Friday,....18	30.04	53.0	60.0	46.0	55		49	52.0	W.		N.E.	14		4	C.		C.		
Saturday,.19	30.15	52.0	64.	39.0	64		75	70.0	W.		S.	7		12	C.		C.		
Mean for Week.	30.08		53.0	40.0				73.0											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 19, 1889, TO OCTOBER 25, 1889.

TAYLOR, MARCUS E., Assistant surgeon U. S. Army. Relieved from duty at Fort Stanton, New Mexico, and ordered to Boise Barracks, Idaho. Par. 10, S. O. 242, A. G. O., October 17, 1889.

HALL, JOHN D., assistant surgeon U. S. Army. Relieved from duty at Fort Niagara, N. Y., and ordered to Madison Barracks, N. Y. Par. 10, S. O. 242, A. G. O., October 17, 1889.

GIRARD, ALFRED C., surgeon U. S. Army Relieved from duty at Boise Barracks, Idaho, and ordered to Fort Niagara, N. Y. Par. 10, S. O. 242, A. G. O., October 17, 1889.

EWEN, CLARENCE, surgeon U. S. Army. Relieved from duty at Madison Barracks, N. Y., and ordered to Willet's Point, N. Y. Par. 10, S. O. 242, A. G. O., October 17, 1889.

GARDNER, EDWIN F., assistant surgeon U. S. Army. Relieved from duty at Fort Lewis, Col , and ordered to Fort Porter, N. Y. Par. 10, S. O. 242, A. G. O., October 17, 1889.

GIBSON, JOSEPH, R, surgeon U. S. Army. Relieved from duty at Fort Sheridan, Ill., and ordered to Governor's Island, New York Harbor. Par. 10, S O. 242, A. G. O., October 17, 1889.

MAUS, LOUIS M., assistant surgeon U. S. Army. Relieved from duty at Fort Porter, N. Y., and ordered to Fort Stanton, New Mexico. Par. 10, S O. 242, A G O., October 17, 1889.

KENDALL, WILLIAM P., first lieutenant and assistant surgeon U. S. Army. Leave of absence extended one month. Par. 6, S. O. No. 244, A. G. O., October 19, 1889.

MEARNS, EDGAR, A., captain and assistant surgeon U. S. Army. Granted leave of absence for two months. Par. 5, S. O. No. 244, A. G. O., October 19, 1889.

So much of Par. 2, S. O. No 241, October 16, 1889, from this office, as directs Captain LOUIS BRECHEMIN, assistant surgeon, to report for duty at Fort Apache, Arizona Ty , is revoked. He will report in person to the commanding officer, Presidio of San Francisco, Cal , for duty at that station. Par. 7, S. O. No. 248. A. G. O., October 24, 1889.

EAGAN, PETER R., captain and assistant surgeon U. S. Army. On being relieved from duty at Camp Eagle Pass, Tex., will report in person to the commanding officer Fort McIntosh, Tex., for duty at that station. Par. 7, S. O. No. 248, A. G. O., October 24, 1889.

WAKEMAN, WILLIAM J., captain and assistant surgeon U. S. Army. Relieved from duty at Fort Walla, Washington Ty., and will report in person to the commanding officer, Fort Bidwell, Cal., for duty at that station. Par. 7, S. O. No. 248, A. G. O., October 24, 1889.

DAVIS, WILLIAM B., captain and assistant surgeon U. S. Army. Relieved from further duty at Fort Porter, N. Y., and will report in person upon expiration of his present sick leave of absence to the commanding officer Fort Preble, Me., for duty. Par. 6, S. O. No. 248, A. G. O., October 24, 1889.

CLENDENIN, PAUL, first lieutenant and assistant surgeon U. S. Army. Relieved from duty at Fort McIntosh. Tex., and will report in person to the commanding officer, Camp Eagle Pass, Tex., for duty at that station. Par. 7, S. O. No. 248, A G. O., October 24, 1889.

CHAFIN, ALONZO R., captain and assistant surgeon U. S. Army. Relieved from duty at Newport Barracks, Ky., and will report in person to the commanding officer, Fort Yates, Dakota, for duty at that station. Par. 7, S. O. No. 248, A. G. O., October 24, 1889.

RAYMOND, HENRY J., first lieutenant and assistant surgeon U. S. Army. Upon being relieved from duty at Fort Bidwell, Cal., will report in person to the commanding officer Newport Barracks, Ky., for duty at that station. Par. 7, S. O. No. 248, A. G. O., October 24, 1889.

SHANNON, WILLIAM C., captain and assistant surgeon U. S. Army. Relieved from duty at Fort Yates, Dakota, and will report in person to the commanding officer Fort Apache, Arizona Ty., for duty at that station. Par. 7, S. O. No. 248, A. G. O., October 24, 1889.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING OCTOBER 19, 1889.

VAUGHN, G. T., assistant surgeon. When relieved to proceed to Evansville, Ind., for temporary duty. October 9, 1889.

PERRY, T. B., assistant surgeon. Ordered to temporary duty at San Francisco, Cal. October 15, 1889.

VANSANT, JOHN, surgeon. Granted leave of absence for fifteen days. October 16, 1889.

GOLDSBOROUGH, C P., surgeon. Leave of absence extended thirty days on surgeon's certificate of disability. October 18, 1889.

SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. – A Regular Meeting of this Society will be held at 19 Boylston Place, Monday evening, November 4th, at 8 o'clock. Readers: Dr. T M. Rotch, Difficult Dentition; Dr. M. Prince, The Present Method of giving Expert Testimony in Medico-legal Cases, as illustrated by one in which large damages were awarded, and in which contradictory medical evidence was given. Report of the Committee on Admissions.

T. F. SHERMAN, *Secretary*.

SURGICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY. – There will be a Meeting of this Section on Wednesday evening, November 6th, at 8 o'clock. Dr. D. W. Cheever, will make a few remarks on Old and New Surgery. Dr. A. T. Cabot, will read a paper on Bony Anchylosis of the Temporo-Maxillary Joint relieved by Osteotomy of the Neck of the Inferior Maxilla. Dr. C. L. Scudder will report cases of Congenital Dislocations of the Shoulder-Joint.

GEORGE H. MONKS, M.D., *Secretary*.

CORRECTION.

Dr. O. H. Everett, of Worcester, Mass., writes in regard to remarks attributed to him in the report of the annual meeting of the Obstetrical Section of the Massachusetts Medical Society, June 11, 1889, and published in the JOURNAL, Vol CXXI, Page 45. "In the first place, I was not present at the meeting of this Section In the second place, the remarks are not such as I should have made if I had been present and had made any. I *do* use antiseptics in obstetrics, and have had no cases of septicæmia for which to blame myself or any one else."

DEATH.

Died in Boston, October 12, 1889, Levi Farr Warner, M.D., M.M.S.S., aged sixty-seven years, eleven months.

Original Articles.

CASES OF SUB-DIAPHRAGMATIC ABSCESS.[1]

BY A. T. MASON, M.D.

SUB-DIPHRAGMATIC abscesses which are non-pyæmic and not tropical in origin are of uncommon occurrence. They may find their starting point in the perihepatic, perinephritic or perisplenic region, and are usually due to injuries, to secondary inflammation from calculi or perforating ulcers of the stomach and duodenum, or to cancer, syphilis or tubercule. They are sufficiently rare and dangerous to be of great interest both to the physician and the surgeon, and the difficulty of determining their precise seat is often insuperable, owing to the distance of the pus from the surface, so that much time is usually lost in forming a correct opinion. If the patient is not seen until the thoracic or the lower abdominal cavity is invaded, as is often the case with those who appear in hospitals, the secondary pneumonia, pulmonary abscess, pleurisy, empyema, intestinal inflammation or peritonitis may still further obscure the diagnosis.

The following cases, illustrative of some of these conditions and complications came under my care last winter at the Boston City Hospital.

CASE I. ULCER OF DUODENUM CAUSING PERIHEPATIC ABSCESS CONTAINING AIR AND SIMULATING PNEUMO-THORAX; ADHESION OF RIGHT LUNG TO DIAPHRAGM; PLEURITIC EFFUSION; AUTOPSY.

I. N., carpenter, age fifty-six, entered the City Hospital, November 25, 1888. Fifteen months before, he had had a severe gastric attack with extreme pain and collapse from which he had recovered in a short time sufficiently to resume his work although he has never felt entirely well since. Four weeks before entrance he was again seized with violent pain at the epigastrium and in the right side, so severe that ether was administered. Since then the pain has been constant with six or seven exacerbations none so bad as the first. At times he had been very tender just below the ribs on the right side in the region of the gall-bladder, and there were other times when there was no tenderness. The tongue had been dry, but there had been no vomiting and no discharges of blood from the bowels at any time.

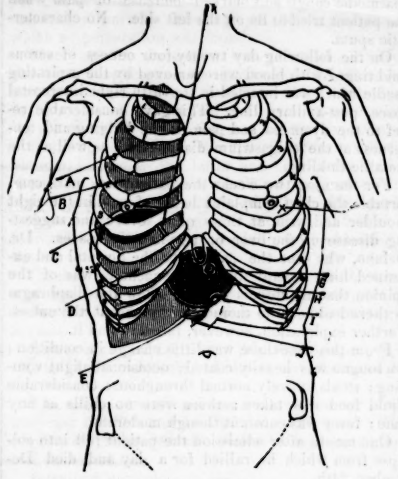
At entrance appetite was poor; bowels constipated; temperature 100° F; pulse 104; respiration 24. The urine was normal. He was well developed and nourished. At the epigastrium was a tense bulging, tender to the touch, as large as the palm of the hand, resonant on percussion. Over this area a metallic tinkling was heard when the patient coughed.

Examination of the chest showed that the heart was displaced an inch and a half to the left. Left side otherwise normal.

Over the right front there was increased percussion resonance to the seventh interspace in the mammary line. Throughout this area the breath sounds were faint and marked metallic tinkling was heard on forced inspiration or cough, also a metallic vocal resonance. From the seventh space downward flatness on percussion extended two inches below the margin of the ribs where the lower border of the liver could be felt.

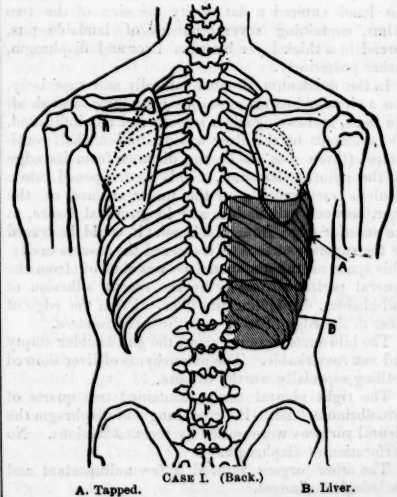
In the right lower axillary region and the lower half of the right back were signs of fluid: flat percussion and absence of respiratory sound and vocal fremitus. No succussion sounds were heard.

It will be observed that the metallic sounds in front



CASE I. (Front.)

A. Adherent lung.
B. Metallic tinkle.
C. Sub-diaphragmatic abscess.
D. Liver.
E. Gall-bladder.
F. Heart's apex.
G. Metallic tinkle.
H. Tympanitic bulging.
I. Ulcer of duodenum.
J. Adhesions between gall-bladder and duodenum.



CASE I. (Back.)

A. Tapped. B. Liver.

with the exaggerated percussion tone and faint breath sounds, the presence of pleural effusion and the displaced heart were suggestive of hydro-pneumo-thorax. The metallic tinkling was loudest, however, at the epigastrium, apparently below the diaphragm, and

[1] Read before the Section of the Suffolk District Medical Society for Clinical Medicine, Pathology, and Hygiene, May 8, 1889.

vocal fremitus was not altogether absent over the anterior chest-wall.

The breathing was embarrassed and painful with spasmodic cough and marked increase of pain when the patient tried to lie on the left side. No characteristic sputa.

On the following day twenty-four ounces of serous fluid tinged with blood were removed by the aspirating needle which was inserted in the fifth right intercostal space, post-axillary line. This gave considerable relief to the dyspnœa and pain. The bulging and tenderness at the epigastrium disappeared, as well as the metallic tinkling.

For the next two weeks the patient was more comfortable the chief complaint being of pain in the right shoulder and arm, at times quite severe and suggesting disease of the liver or peri-hepatic tissues. Dr. Delano, who sent the patient to the hospital and examined him several times subsequently, was of the opinion that an abscess existed below the diaphragm as there had been no thoracic symptoms at the outset. Further exploration, however, failed to find it.

From this time there was little change in condition; the tongue was heavily coated; occasional slight vomiting; stools entirely normal throughout; considerable liquid food was taken; there were no chills at any time; fever was constant though moderate.

One month after admission the patient fell into collapse from which he rallied for a day and died December 24th.

Autopsy. — By Dr. Delano. The peritoneum in general was everywhere smooth, pale and glistening; but the liver and diaphragm were united through a recent inflammatory process. On separating the adhesions, when the convexity of the liver was reached, the hand entered a flat cavity the size of the two palms, containing several ounces of laudable pus, spread in a thick layer between liver and diaphragm, rather posteriorly.

In the duodenum, situated laterally and superiorly, was a circular loss of substance extending through all the coats, and having edges smooth and non-infiltrated. The diameter of the ulcer was one-and-one-half centimetres (three cent piece), the distance from its edge to the pylorus the same. This ulcer opened into a fistulous tract running on the under surface of the liver, between gall-bladder and longitudinal fissure, to the anterior edge, from which point it could be traced on the superior surface till it entered the abscess cavity. This space on the under surface was shut off from the general peritoneal cavity by the recent adhesion of gall-bladder, duodenum and liver. From the edge of ulcer to the edge of liver was three centimetres.

The bile ducts were pervious, the gall-bladder empty and not remarkable. The parenchyma of liver showed nothing especially worthy of note.

The right pleural cavity contained two quarts of sero-fibrinous fluid. Between lung and diaphragm the pleural surfaces were united by recent adhesions. No perforation of diaphragm.

The other organs showed a few unimportant and pathological changes.

Remarks. — The severe pain in the region of the gall-bladder had suggested at first the passage of gall-stones. There was no vomiting, however, and the stools were normal. At the time of entrance to the hospital the complications had so far obscured the primary disease that a correct diagnosis was nearly impossible. It was only at the autopsy that the curious auscultatory phenomena were explained. The presence of an abscess containing air on the upper surface of the liver, communicating by a sinus with the duodenal ulcer which allowed partial discharge of the pus by the intestine, seemed to account for the metallic sounds which transmitted upward through the adherent lung. Pus was at no time seen in the stools.

I have not been able to search far in medical literature for reference to conditions which may simulate pneumo-thorax, and know of but one or two writers who have mentioned cases like the one here reported. Probably there are others.

Habershon in his work on "Diseases of the Abdomen," relates the case of a woman who had gastric ulcer which had caused a large abscess communicating with the stomach and bounded by the ribs, spleen, liver and diaphragm. At the base of the left lung there were amphoric breathing, metallic tinkling and ægophony. The pleura was not perforated, so it was concluded that the signs of pneumo-thorax were produced by air in the peritoneal abscess.

The late Dr. Austin Flint, mentioned the observations of Leyden on the rare occurrence of such abscesses containing air situated just below the diaphragm, oftener on the right between the diaphragm and the upper surface of the liver, resulting from perforating ulcers of the stomach or duodenum and producing signs of pyo-pneumo-thorax. Dr. Flint does not speak of having met with such cases himself, but states that Leyden[1] diagnosticated the affection in two instances.

The diagnostic points are said to be the presence of a faint respiratory murmur, the absence of cough and expectoration at first, and the history of symptoms referable to the stomach or duodenum. In the case which I have just reported it was also noticed that the metallic sounds were loudest below the diaphragm and that the vibration of the anterior chest-wall was not entirely abolished as in pneumo-thorax. There were no succussion sounds.

CASE II. — SUPPOSED GASTRIC ULCER; SUB-DIAPHRAGMATIC ABSCESS; ADHERENT LUNG; PNEUMONIA; AUTOPSY.

I. S., aged twenty-two, was seen by me December 5, 1888, when she complained of gastric pain and discomfort after eating. No vomiting. She had been anæmic for a year or more, but otherwise well and the catamenia were regular.

A week later, December 12, she was sent to the hospital. The dyspeptic symptoms were about the same, but she had been exposed to the cold and complained of pain in left hypochondium. On admission it was noted that she was well developed and nourished; anæmic; pain in region of stomach with moderate tenderness; appetite poor; bowels constipated; temperature, 99.2°; pulse, 92; respiration, 24; urine, normal; tongue slightly coated; no vomiting; heart and lungs normal.

She was up and dressed for two days, but on December 14 she complained of much more gastric pain, referred chiefly to the lower border of the ribs in the left side, and aggravated by motion of her diaphragm in forced inspiration. There was tenderness all over the abdomen, but no distension; bowels constipated; vomiting.

[1] Zeitschrift für Klin. Medicin. Band I, page 320.

On the following day it was noted that the breath sounds were suppressed in left side and back below seventh rib, above which the respiration was tubular, and the percussion tone vesiculo-tympanitic; a few crackling râles of high pitch; no cough. Aspiration in seventh interspace, post-axillary line, found no fluid.

The signs of consolidation in the left posterior lobe remained until death, two months later; but at no time was there cough or expectoration.

Urine drawn with catheter. No chills; no sweating; fever.

Vomiting became a prominent symptom, with looseness of the bowels at intervals. Several times the vomitus contained a considerable quantity of foul smelling pus, with what appeared to be blood-stained shreds.

These evacuations were followed by relief of pain and diminution of fever, as if an abscess were discharging through the stomach. Several hard, tender glands were observed above the left clavicle, disappearing in about a week.

January 2d. Patient began to complain of pain at the border of the ribs on the other side, and tenderness over the liver, which, however, was neither enlarged nor depressed.

January 8th. Violent chill, lasting fifteen minutes. Vomiting of foul pus; no straining; no cough.

January 10th. Pain in right shoulder. Offensive vomitus containing shreddy masses of foul odor.

January 12th. Pain in right shoulder severe, and that in left side much less.

January 14th. Vomited half a pint of greenish, bile-tinged fluid containing large shreds of sloughy-looking material in part stained with blood.

January 16th. Breathing in left side improved. Heart's apex in the fourth space inside nipple line. Painful symptoms transferred chiefly to right side. Up to this time no abscess could be localized, and several explorations with the needle has failed to find pus.

January 19th. Several ounces of foul pus were evacuated by incision through the tenth space in the anterior axillary line on the *right* side. A drainage-tube was inserted four inches, apparently following the upper surface of the liver, and the cavity was washed out with creoline solution. This cavity discharged freely for ten days, and then gradually closed up. During this time the fever, vomiting and septic symptoms abated, and the patient became more comfortable, sleeping on either side, which she could not do before.

January 30th. Vomiting again frequent, but not offensive. More pain in back and left side. Respiration in left front good as far as middle axillary line. Behind this and below scapula nearly flat percussion and tubular breathing. *No cough. No expectoration.*

February 9th. By aspiration in the seventh space, left side, a small amount of foul pus was withdrawn. Dr. Doe, under whose care the patient now was, made an opening, but found only a small quantity of pus, apparently in a pocket between the pleura and ribs, the lung being adherent. Death, February 11th.

Autopsy. — Dr. H. L. Smith made the following record of the post-mortem which he performed:

Emaciation extreme. Both pleuræ adherent to chest walls, especially in lower left side.

Right lung engorged. Lower lobe of left, solid with no crepitation; on section it presented a granular surface with grayish-yellow color, and was very dense. This lung was firmly adherent to the diaphragm, and the solid lower lobe was cut through in removal, a portion adhering to the diaphragm, in which no perforation was found.

Liver, spleen, duodenum with stomach, kidneys, pancreas, diaphragm and portion of left lung removed *en masse*. There were firm, fibrous adhesions in the region of the cardiac end of the stomach, binding all the above organs together and to the parietes.

In the space between the spleen, stomach and diaphragm, just below the latter and next to the wall of chest and abdomen, was a small abscess cavity, with rough, grayish surface, empty and communicating with incision in left side. It would have contained three or four ounces. No communication with perinephritic tissue.

On the posterior surface of the stomach there was what appeared to be the cicatrix of an ulcer, not depressed, but with radiating lines. Stomach otherwise normal.

Liver, kidneys and heart, pale and opaque. The abscess in the right side had closed, and the sinus was not found.

The spleen seemed to form the lower border of the pus cavity, which surrounded its upper part. This organ was unchanged on section. Capsule at upper end thickened.

Intestines normal.

Diagnosis. — Abscess in tissues above spleen and below diaphragm, with adhesive peritonitis and pleuritis; pneumonia; granular degeneration of liver, kidneys and heart.

Remarks. — The history of this case made it almost certain, at an early period, that there was an abscess adjacent to the stomach, below the diaphragm; but its situation, high up under the arch, prevented drainage until the pus had burrowed first to the right side and then to the left, and the patient had become exhausted by pulmonary and septicæmic complications.

No open ulcer of the stomach was found. The history for the previous year, the marked pallor and anæmia, and the local symptoms pointed strongly to that affection, but it was not determined in what tissues the abscess originated.

The early adhesion of the left lung to the diaphragm, and the long-continued solidification without cough or expectoration, indicated the secondary nature of the pulmonary affection.

CASE III. — PERINEPHRITIC ABSCESS (TUBERCULAR); NECROSIS OF DIAPHRAGM; EMPYEMA; AMYLOID DEGENERATION; AUTOPSY.

R. R., laborer, aged thirty-three, entered the City Hospital, April 12, 1889. He stated that he had had inflammation of the bowels ten months before, more or less pain ever since, chiefly in the right hypochondrium; but he had only given up work *six days* before admission. Pain had been the only complaint. This had extended to the right lower axillary region. There had been no chills, vomiting or headache. Cough and expectoration had not been noticeable. The bowels had been regular. No appetite.

At entrance it was noted that he was well developed, but emaciated and cachectic in appearance, with bulbous finger ends. Temperature 100° F.; pulse, 80; respiration, 36.

Physical examination showed the heart to be in the normal position.

The right side of the chest expanded less than the left, and there was tenderness over the right lower intercostal spaces in the axillary line, with retraction of the same spaces in front, as if the lung were adherent. Anterior percussion gave a dull tympanitic tone, and the respiratory sounds were weak. Posteriorly, below the angle of the scapula was flatness, with absence of respiratory sound; diminished vocal resonance and fremitus; the signs of fluid. Above, weak bronchovesicular breathing, and increased vocal resonance.

Liver flatness began at the seventh interspace in front and extended two inches or more below the ribs, and to the left as far as the end of the tenth rib on that side. At this point the enlarged spleen was also felt, extending below the ribs.

The abdomen was somewhat distended and tender chiefly in the right hypochondrium.

Examination over the region of the right kidney showed no swelling nor marked pain on pressure.

The urine was acid, of normal quantity; specific gravity, 1,011; and contained one-fourth per cent. of albumen with large and small hyaline and granular casts.

April 13th. Ten ounces of thin, foul pus were withdrawn by aspiration through the eighth space posterior axillary line. The character of the pus, the proximity to the diaphragm, the adherent lung, and the pain in the right hypochondrium gave rise to the opinion that the empyema was secondary to an abscess below the diaphragm, which had probably been for a long time latent. The urinary changes and the enlarged liver and spleen in connection with prolonged suppuration also suggested amyloid degeneration.

The patient was informed that no further interference was advisable, as he was almost moribund at the time of entrance; but on the 18th, six days after admission, he asked to have an opening made, and it was done. A tube was inserted through the ninth interspace, posterior axillary line, without ether, owing to the feeble condition. A moderate amount of offensive fluid escaped, and the cavity was washed out. This was of no benefit, and the patient died a few hours later.

Cough, expectoration and râles; chills, sweating and vomiting had been noticeably absent. Exhaustion and diarrhœa were the only symptoms of septic poisoning. The temperature was sub-normal.

Autopsy. — The following post-mortem notes were made by Dr. Gannett:

Much emaciation. Heart normal.

Lungs. Pleural surfaces on left side free from adhesions. Left lung voluminous, of a coal-black color, with numerous black nodules about the size of a filbert meat. Right pleural surfaces adherent throughout by firm, fibrous tissues, the lung presenting appearance like the left. The lower posterior portion of the right pleural cavity was represented by an abscess cavity with grayish-black ragged walls covered with fibrinous false membranes, containing thin, foul-smelling pus. This cavity communicated with incision in right side.

Below the diaphragm, and involving the upper part of the right kidney, was an abscess cavity the size of a large fist, with ragged, grayish-black walls in part cheesy. No direct communication between these two cavities above and below the diaphragm could be made out; but the wall separating them was thin, and in a necrosed condition.

Spleen much enlarged, showing the condition of "sago spleen."

Left kidney enlarged, pale; cortex showed uniform pallor, and with iodine a marked amyloid reaction.

Liver showed a large number of gray nodules about the size of a millet seed (tubercle); and in the upper right posterior portion there was a marked growth of fibrous tissue forming a wall of the abscess previously described.

Lymph glands in neighborhood of the pylorus considerably enlarged; gray on section.

Diagnosis.— Pigmentation of lungs; chronic adhesive pleurisy; circumscribed empyema; peri-nephritic abscess, with necrosis of diaphragm; amyloid degeneration of spleen and kidneys; tuberculosis of liver; hyperplasia of abdominal lymph glands.

CONCLUSION.

Diagnosis.— Adhesion of the lung to the diaphragm, *with signs and history of inflammation below;* fluid, sometimes foul, limited to the lower and posterior pleural cavity; the physical signs of consolidation or compression of the posterior lobe; slight fremitus, dull tympanitic percussion tone and diminished respiration over the anterior surface *to the base*; absence of cough and expectoration; these are the chief points upon which a diagnosis of sub-diaphragmatic abscess may be made when exploration fails to reach it.

In these three cases the impaired contractility of the lung adherent to the diaphragm, with consequent distension of the air vesicles, gave rise to the signs of emphysema in front.

Remarks.— The tendency of the pus in these cases was to find its way upward and laterally rather than downward. This may have been due to the recumbent position, the strong adhesion below, and the intra-thoracic force or suction which maintains the arch of the diaphragm. In Case I the abscess did not penetrate the thin gall-bladder or intestines, which were contiguous, but turned upward over the anterior surface of the liver and reached the top of that organ. In Case II it found its way posteriorly to the surface on opposite sides of the body.

Perforation of the diaphragm probably occurred in Case III by a small opening which closed after the fluid was withdrawn. Bursting into the lung took place in no instance, although this accident sometimes aggravates the course of perihepatic abscess. Dr. A. T. H. Waters, of Liverpool, in his "Contributions to Clinical and Practical Medicine," gives the details of four such cases, of which two were verified post-mortem and one recovered. The patients had lived in the tropics or had suffered from dysentery. No relief was practicable. Dr. G. H. Lyman reported two cases in the JOURNAL for 1882,[3] also occurring at the City Hospital; one peripleuritic, and the other perinephritic, abscess, which were similar to these. One recovered.

The *Journal of the American Medical Association* says that Rembrandt's celebrated picture, entitled "A Lesson in Anatomy," has been purchased by Mr. Ellesworth, for the Institute of Art of Chicago. Until recently it has been in an art gallery at the Hague.

[3] Boston Med. and Surg. Journal, vol. cvi, pp. 279, 481, 492.

EUPHRASIA OFFICINALIS.[1]

BY G. M. GARLAND, M.D., BOSTON.

ONCE upon a time, it was written of euphrasia, that it possessed wonderful powers, and produced cures little short of marvellous. To-day, after searching through a large number of modern text-books on therapeutics, I can record only three (Phillips, Potter, United States Dispensatory) which give even a meagre notice to this drug. The following extract is the entire description of the drug in the United States Dispensatory:

"EUPHRASIA OFFICINALIS, *Eyebright*, a small annual plant, common to Europe and the United States, without odor, and of a bitterish, astringent taste. It was formerly used in various complaints, and, among the rest, in disorders of the eyes, in which it was thought to be very efficacious, and in the treatment of which it is still popular in some countries. The probability is that it is nearly inert."

Going back to older writers, we find the following notices:

"Dictionnaire des Drogues," Chevallier and Richards, Paris, 1827: "This plant has a bitter taste, slightly astringent with little or no odor. From the absence of these qualities one might say with temerity that the medical properties of euphrasia ought to have little energy. It is difficult to understand what gave to the drug a reputation, so ostentatious (fastneuse) among the ancients who lauded it for a crowd of afflictions, and especially for eye troubles."

"The New Dispensatory," William Lewis, Dublin, 1778: "Hildamos says he has known old men of seventy, who had lost their sight, recover it again by the use of this herb; later practitioners, however, have not been so happy as to observe any such good effects from it. At present it is totally and not unjustly disregarded."

"Pharmacopœia Officinalis and Extemporanea, or a Complete English Dispensatory," John Quincy, M.D., London, 1733: "EUPHRAGIÆ, *Eyebright*, is also sometimes wrote, euphrasia, and *eutrasia*, and by some called *ophthalmia*, and *ocularia*, eyewort. The *euphrasia officinarum* of *Caspar Banbine* is the eyebright here intended; and it flowers in *June*, *July*, and *August* sometimes. It is reckoned a great dryer, . . . and in that respect a *cephalic;* for which reason likewise it is smoaked as *tobacco*. 'Tis of great esteem in distempers of the eyes. But its juice is much preferable to the distilled water, which used outwardly is affirmed to take off all specks, films, mists and suffusions."

We perceive that this drug gains in favorable notice as we go back into the past. With this history before us it would seem *à priori* that euphrasia must have possessed some virtues to acquire such great renown; and, on the other hand, its fall from favor must have been due to its failure to accomplish work for which it had been so injudiciously advised. It has indeed descended into such poor estate that it is not only dropped out of text-books, but also out of the memory of those who handle drugs. A patient of mine, who recently asked for the tincture of euphrasia in one of the leading drug stores of Boston, was told that she had confused the name of a drug with that of a manufacturer, and that she probably wanted some preparation of Fraser of New York.

I desire to narrate the experience which I have had with euphrasia during the last four years. My attention was first called to the drug by Dr. Clark, of Milford, who told me that it possessed great potency in the treatment of head-colds, and the following cases will illustrate the success which I have had with it:

CASE I. Mrs. D. for a number of years has been subject to violent attacks of head cold, accompanied by severe headache, anorexia and confinement to the bed for several days. I treated her at first with quinine, which produced no appreciable effect. Then I gave her atropine and morphine combined, and in sufficient strength of atropine to dry the throat. This combination would diminish the intensity of the coryza, but caused so much discomfort from the dry throat and dilated pupils that the patient preferred the ordinary run of the disease. Then I gave her the tincture of euphrasia, and told her to take *ten* drops in a little water every two hours, beginning with the first indication of trouble. She has kept a bottle of this tincture in her house for the last three years; and in reply to my query a few days ago, she said that the medicine still works like a charm. If she takes a dose the moment her throat begins to feel scratchy, it aborts the attack. If for any reason she cannot obtain a dose until the coryza is fairly started, the medicine will so modify and abate the intensity of the attack that she is able to keep about, and suffers relatively little discomfort.

CASE II. Mr. W. B. was invited to a dinner at six o'clock. He came to my office, at 4 P. M., suffering from an acute coryza; he was sneezing, and his nose was running freely and required the constant use of a handkerchief. He said he could not attend the dinner. I gave him ten drops of tincture of euphrasia and ordered the dose repeated just before six o'clock. It dried up the secretion so that he attended the dinner with perfect comfort, and retained only a slight reminiscence of the coryza next day.

CASE III. Mrs. G. says that the medicine will stop her head-colds in two hours, if taken promptly at the beginning.

CASE IV. Miss F., a singer, has occasional head-colds, which also descend into a subacute laryngitis and hoarseness, which prevent her from singing for five or six weeks. Last month she came to me for the first time, and I gave her euphrasia. The coryza was already well under way, and, therefore, the drug did not abort it, but the intensity of the attack was so mitigated that she had scarcely any hoarseness, and was able to resume singing in a chorus in ten days. She also sang a solo in a fortnight.

These cases might be multiplied still further, but they all illustrate one thing which is that euphrasia, as the ancients claimed, is a *drier* and exerts a powerful action upon the recently inflammed mucous membrane of the nose and pharynx. I have had no success with it in nasal discharges which have advanced to a purulent or muco-purulent condition.

Now this is, undoubtedly, a limited field of action, and it may hardly seem worth while to spend much energy upon a drug of such narrow limitations, but I notice that patients who have once experienced the beneficence of euphrasia in a head-cold cannot speak too enthusiastically about it.

Potter says, "In hay-fever also it is of decided utility in mitigating the catarrhal symptoms, and in the acute coryza of measles it will be found an excellent remedy."

I have reserved to the end of my article the one use of euphrasia which will prove the greatest comfort to the physician: I refer to its use in the acute coryza of babies. Sprays, snuffs and gargles are out of the question with babies, and none of the ordinary cold remedies possess the slightest influence over a coryza. A few drops of euphrasia in half a glass of water, which the little sufferer can drink *ad libitum*, will give prompt relief without disturbing the digestion. Moreover, the tincture of euphrasia is very aromatic, and smells like new-mown hay, and babies like it.

[1] Read before the Section for Clinical Medicine, Pathology and Hygiene of the Massachusetts Medical Society (Suffolk), May 8, 1889.

If the profession will take this drug for what it is worth, and restrict its use to its proven possibilities, I prophesy the greatest satisfaction from its employment. It will not abort every head-cold, but it will promptly and generously diminish the discomfort of the patient, and greatly shorten the duration of the affliction.

ANTIPYRETICS.[1]

BY EDWARD N. WHITTIER, M.D., OF BOSTON.
Visiting Physician to the Massachusetts General Hospital.

OUR chief infectious fever, typhoid, has been selected for the study, in its clinical aspect, of refrigeration, and the influence on the disease, of the application of cold to the surface of the body.

The tables of results, as expressed in mortality rates by percentages, wherein the salutary influences of cold baths are compared with all other previous and present methods, ought to carry conviction most profound to the most skeptical — a conviction, that in not conforming to the requirements of the system of Brand, we should fall far short of doing our duty in this most important and frequent class of cases. Juergensen stated, in the Congress at London, that "whenever he attempted to deviate from the rigorous cold water treatment, he was compelled to return to it in order to obtain the best results." I appreciate fully the objections which may be raised, growing out of the lack of the proper mechanical appliances, to enable us to comply with the requirements of the method of Brand in all its precision of detail, but the difficulties to be overcome are far from being insuperable.

I append herewith the method of refrigeration employed by Brand. The reasons why other physicians have failed to secure corresponding results in the reduction of the mortality rate, in typhoid fever for instance, will be found in defective application of the method, insisted upon by Brand; the defect will be found in the absence of the needful rigorousness and precision, so strenuously insisted upon by the originator of the system.

The method of refrigeration employed by Brand is thus described by Dujardin-Beaumetz, in a lecture delivered in Cochin Hospital in 1878.

"The bath-tub shall be placed near the bed. The bath-tub shall contain a sufficient quantity of water, so that the patient when immersed in it shall be completely covered up to his neck. The temperature of the water should not exceed 20° C. (78° F.) Tripiér and Bouveret distinguished in this regard three varieties of cold baths, — baths with a temperature of 22° to 24° C., of 18° to 20° C., and of 14° to 15° C., and they regulate the temperature of the bath by the intensity of the fever and the resistance to refrigeration.

"Before carrying the typhoid patient to the bath-tub, and in order to diminish the trying and painful sensation of cold, the abdomen is rubbed with the water of the bath. Then the patient is placed in the bath, and all the time that he remains there the head is showered with ice-cold water. It is understood that the hair shall have previously been cut short in order to render these affusions more active. Brand recommends also to rub the belly and back of the patient during the time of the bath. The patient is kept in the bath about fifteen minutes; in certain cases the bath may be prolonged to twenty minutes. At the end of this time the patient is taken with shivering and chattering, and is then removed to his bed, and his lower limbs are covered with blankets. As for the rest of the body, in summer only a simple sheet is employed, and in winter a sheet covered by a woollen blanket.

"At the end of twenty minutes the temperature is taken, and during the period of comfort which ensues, some nourishment is given. Every hour the temperature is taken anew, and when the mercury resumes its ascending march, and reaches 39° C. (102° to 103 F.), whether during the day or night, the patient is again plunged into the cold bath. Brand has fixed at about three hours the interval which should elapse between the baths, but this period may be made much shorter, and reduced to two hours, or one hour and a half if there be very high fever heat aud great resistance to refrigeration. Brand insists also that in the interval of the baths the nurses should keep constantly applied over the abdomen of the patient compresses wet in cold water, and renewed as fast as they become warm.

"It is well on the inception to resort to cold ablutions with towels (not sponging). Friction aids heat elimination by dilating the cutaneous vessels, and the shock refreshes the nerve-centres (Winternitz). Then the patient grows accustomed to the more energetic bathing, which may be opened with the half bath, combined with gentle chafing. and gradually culminate in the full bath at 65° F.

"The patient, when taking the bath and at all times, should be well supported with such nourishment as is suitable for his condition, — milk, wine, broths, peptonoids, etc. No other treatment is employed.

"Such is Brand's method in all its rigorousness and exclusiveness. In order that it may give success it must be applied from the very onset of the fever. In proportion to the tardiness and lateness of its inception, the chances of success are lessened. In reference to no mode of treatment has the appeal to statistics been more confidently made, and the advocates of refrigeration have endeavored to show that when Brand's system has been followed to the letter the mortality from typhoid fever is reduced to a very low figure."

Internal antipyretics or antithermics have had a large and enthusiastic following. It has not yet been demonstrated by those most skilled in the employment of these remedies to reduce temperature, that the duration of febrile disorders has been shortened, that their course has been modified in any essential particular, or that the mortality rate has been lessened. An eminent authority two years ago claimed that the mortality rate had been reduced by antithermics, but stated that his belief was that the small improvement was attributable to the comfort afforded the patient more than to the removal of danger from high temperature; this year the same authority, after more careful study of the subject, states that he is prepared to agree with Brand that the only advantage from antipyretic medication seems to be that the patient is able to die with a nearly normal temperature.

The aspirants for antithermic honors have come upon the stage of action with imposing credentials and with all of the influences of hereditary tendencies towards the reduction of high temperature whenever and wherever found, by the use of antipyretic medication. The vast majority have played a feeble part in the process assigned them, and claimed for them, and have

[1] Read at the annual meeting of the Massachusetts Medical Society, June 11, 1889. (Concluded from page 429 of the Journal.)

failed signally to gain for themselves a fixed position in the list of therapeutical remedies upon which reliance may be placed.

Quinine, carbolic acid, salicylic acid, salicin, salol, antipyrin, antifebrin, thallin, kairin, acetphenetidin, pyrodine, methacetin, phenacetine, — how formidable the array; how few the survivors!

I have the pleasure of presenting a summary of the latest and most advanced views and conclusions bearing upon the physiological, therapeutical and toxicological effects of those antithermics which in my opinion are entitled to a place as remedial agents in pyrexial disorders.

ANTIPYRIN.

This is a grayish crystalline powder of a slightly bitter taste, very soluble both in water and alcohol.

Nitrous acid produces with antipyrin a new compound, iso-nitroso-antipyrin, which crystallizes in small grayish-blue crystals. The sweet spirits of nitre of the Pharmacopœia almost invariably contains free nitrous acid, and on addition of antipyrin a greenish color is produced by the formation of iso-nitroso-antipyrin. Very large doses of this product produce no perceptible effects on dogs and rabbits. The practical result, therefore, of mixing antipyrin and spt. ætheris nitrosi is simply to render a certain amount of the former inert.

Given to animals in moderate toxic doses antipyrin causes first a cataleptic state, then increased reflex activity, opisthotonos and convulsions. Larger doses cause complete relaxation, loss of reflex activity, and death.

These results seem to be due to an action both on the spinal and cerebral centres and on the sensory and motor nerves, but the method of action is still obscure.

Moderate doses of antipyrin increase the arterial pressure, toxic doses lower it, and in the frog, paralyze the heart. These effects are probably due to vaso-motor spasm, since antipyrin seems to have an action similar to that of ergot in checking hæmorrhage.

Considerable doses in man produce a livid color of the face, especially marked in the lips, due to the production of methalmoglobin, though the blood corpuscles themselves are not destroyed even after toxic doses. Ordinary doses do not affect the respiration, but toxic doses diminish and finally arrest it.

Antipyrin is rapidly eliminated by the kidneys, appearing in the urine in half an hour and being mostly eliminated within twelve hours.

The urine is sometimes increased in amount, but may be diminished if free sweeting has been produced. Urea is said to be decidedly diminished.

Temperature is usually lowered in normal and almost always in febrile conditions. The fall begins in about half an hour and is accompanied by profuse diaphoresis.

The depression of temperature usually lasts longer than that caused by other antithermics, continuing from two to twenty hours. It is accompanied by a reduction in the rate, but not in the force of the pulse.

This fall is independent of diaphoresis or of any action upon the general circulation, and is probably due to direct influence upon the heat centres.

Experiments upon dogs show that both in normal and in febrile conditions the fall of temperature is due to decreased heat production and also decreased heat dissipation.

Antipyrin has been recommended as an antithermic in almost all febrile conditions. It has frequently, however, caused collopse, and must be used with great caution. In phthisis especially, it appears to produce so much feebleness and depression as, in the opinion of various observers, to forbid its use. In typhoid the patient is usually more comfortable under the action of the drug than at other times. Sometimes, however, it causes a distressing vomiting. The antipyretic uses of the drug are at present attracting less attention than its analgesic properties.

The dose for an adult should not exceed twenty grains, and H. C. Wood advises that the first dose should not exceed ten grains. These doses may be repeated two or three times, at intervals of one or two hours. Three grains is sufficient for a child of two years, and should not be repeated more than once.

Idiosyncrasies in regard to susceptibility to the drug are not uncommon, and alarming conditions have been produced by small doses. A quantity well borne at one time may cause the most dangerous symptoms at another. In kidney disease elimination is interfered with, and toxic effects may arise. In some cases it is said to act injuriously on the heart muscle, and weakness of the circulation is a certain indication. In children with pneumonia grave toxic symptoms have been seen.

The following are some of the effects which have been observed to follow doses of fifteen to thirty grains: — Dizziness, vomiting, gastro-enteritis, increased frequency of pulse and respiration, dyspnœa, cyanosis, dryness of throat, coryza, urticaria, herpes, sudamina, erythema, macular eruptions, purpura, œdema of the face, arms and legs, rise of temperature, subnormal temperature, collapse. Several deaths are reported, among them that of a girl aged ten years, who died after two doses of ten grains each; a woman with puerperal fever, after fifteen to thirty grains; another woman after fifty-two grains in two doses. Granular and fatty degeneration of the liver and kidneys have been found, post-mortem, in some cases, and were attributed to the large doses of antipyrin which were given.

ACETANILIDE OR ANTIFEBRIN.

This is a white crystaline substance prepared by heating together a mixture of anilin acetic acid. It is without odor, causes a slight burning sensation on the tongue, is soluble only in 189 parts of cold water, more soluble in warm water, freely soluble in alcohol, ether and chloroform.

Given to animals it greatly lowers the temperature, interferes with the conduction of both motor and sensory impressions, decreases the reflex excitability of the spinal cord and causes convulsion movements. Toxic doses paralyze the peripheral motor nerves, abolish reflex activity, cause paralysis, coma and death.

Large doses cause a peculiar discoloration of the blood by reducing hæmoglobin to methæmoglobin. The red corpuscles become granular and in part dissolved, do not adhere in rouleaux, and the serum contains dissolved coloring matter. The amæboid movements of the white corpuscles cease. The prolonged action of large doses produces fatty degeneration of the heart, liver and kidneys.

In ordinary medicinal doses the heart's action is strengthened rather than weakened. The pulse becomes less frequent as the temperature falls, while tension at the same time rises. Experiments on animals have shown that when even injected into the veins, not the slightest fall of blood-pressure is produced. Large doses depress the heart and cause collapse. It is generally thought that the cutaneous vessels are at first dilated.

Cyanosis occasionally occurs, but usually only after doses of seven grains or more. It passes off quickly when the administration of the drug ceases, and is not a serious symptom. It is probably a vaso-motor phenomenon, but may be due to the production of methæmoglobin.

Cutaneous rash is very rarely seen, but sudamina and redness may occur with profuse sweating.

Fall of temperature is produced both in pyretic and apyretic conditions, but this action is energetic in proportion to the height of the fever. The fall of temperature generally begins within an hour, reaches its maximum in two to four hours, and the effects of a single dose usually lasts from three to six hours or more.

The fall of temperature is usually accompanied by profuse sweating, but less than that produced by corresponding doses of antipyrin. Sweating does not cause the fall of temperature, since the latter occurs when the sweating is arrested by atropine or agaricine. Chilliness is sometimes noticed when the temperature begins to rise, but rarely rigors, and shivering is less common than after kairin, thallin or antipyrin.

Experiments on man and animals indicate that in fever acetanilide produces a fall of temperature chiefly by decreasing heat production. Enclosing animals poisoned by acetanilide in cotton-wool will not prevent the fall of temperature. Whether the anitipyretic effect is due to direct stimulation of the inhibitory heat centre, paresis of the spinal heat centre or to an action on the tissues themselves, has not been determined.

Toxic doses cause vascular paresis and increased heat dissipation.

Respiration is but little affected by ordinary doses but after toxic doses the respirations at first become superficial and frequent, then irregular and finally cease.

Though comparatively insoluble, acetanilide is readily absorbed, producing noticeable effects, sometimes in ten or fifteen minutes, especially in children. Vomiting or gastric irritation is caused only by toxic doses.

Most observers agree that acetanilide is a moderate diuretic, though not an irritant to the kidney. It is broken up in the system, but after large doses may be excreted in part unchanged, and in such cases methæmoglobin has been found in the urine.

The therapeutic indications for acetanilide appear to be exactly parallel to those of antipyrin. It has been highly recommended as an antithermic in almost all febrile conditions. Guttman, after trying the remedy in 181 febrile cases, says that in typhoid fever he believes that the results obtained with the internal antipyretics are at least as good as those obtained with the cold bath, and of these substances he deems acetanilide the best in this affection. He opposes the giving of small divided doses as ineffectual, and obtains better results with single doses of four to eleven grains. In typhoid he gives seven and one-half grains morning and night, and occasionally three times a day. After twelve or fourteen days four grains is usually sufficient. In this way complete apyrexia, lasting often six hours, was obtained in every case, and the subjective sensations of the patient were greatly improved. Other observers have found small doses to bring down the temperature, quiet muttering delirium, relieve headache and produce sleep.

In phthisis it is a powerful antipyretic, but more liable to cause cyanosis than in any other ailment. It is best given with a stimulant, and sweating counteracted, if necessary, with atropine or agaricine. The usual sweating in phthisis is often diminished or avoided altogether by a dose given in time to prevent the evening rise of temperature. Children bear the remedy well.

In febrile conditions an average dose is from four to seven grains, and thirty grains a day is usually sufficient. Rheumatic fever and pneumonia seem to require larger doses. Phthisical, weakly and anæmic patients require small doses. If used for some time an increase of dose is necessary to obtain the usual effects.

The long-continued use of large doses in some cases causes anæmia and the so-called anilin cachexia, due to solution of the red blood corpuscles. In such cases fatty degeneration of the heart, liver and kidneys has been found, post-mortem, both in animals and men.

Single large doses may cause cyanosis, cardiac weakness and collapse. Ten grains has produced complete collapse in phthisis, and nine grains had the same effect in a case of pneumonia. In rare cases collapse may occur from small doses of three or four grains. In the case of a child four grains every two hours during the day caused death the same evening.

PHENACETINE OR PARA-ACET-PHENETIDIN.

This is derived from phenol, and occurs as a white crystalline powder without taste, almost insoluble in water but easily soluble in hot alcohol and in warm lactic acid.

Its physiological action on animals has been very little studied as yet, but is probably analogous to that of acetanilide. Very large doses have been given to animals without producing toxic symptoms.

Given in febrile conditions it is a reliable antithermic. The fall of temperature is gradual; begins in one-half to one hour, reaches the lowest point in three or four hours, and is then followed by a gradual rise, the influence of a single dose of seven grains lasting from six to ten hours. The fall of temperature is always attended with free perspiration, but very rarely with any gastric disturbance, rash, cyanosis or collapse.

It has no depressing action on the heart, but seems rather to strengthen its action. The frequency of the pulse and respiration diminishes with the fall of temperature.

The amount of urine is said to be increased. Phenacetine has been detected in the urine, and is also found in the milk of nursing women.

It has been found useful in all febrile conditions. In typhoid fever, while lowering the temperature, it relieves headache, clears the mental condition and

causes a general sense of relief. To maintain a low temperature, seven grains have been given every four hours, and even when continued for a considerable time these doses have rarely given rise to the slightest accident in fever cases. Thirty grains in twenty-four hours is usually sufficient.

In phthisis and other asthenic conditions it may cause a feeling of weakness, and should be used with caution. It has been given for months without any unpleasant symptoms, but seems to lose somewhat of its effect. The usual dose in febrile conditions is seven grains. Though safe in comparison with the other antipyretics, a few unfavorable results have been reported. Fifteen grains given in a case of migraine caused giddiness, flashes of light, trembling of the limbs and nausea. Ten hours later a second dose produced a feeling of intense cold, cyanosis, cold perspiration and dyspnœa.

In another instance, a papular eruption lasting three days appeared on the thorax, abdomen and arms. One-half to three grains in the case of a child were followed by profuse sweating, intense cyanosis and collapse. In two cases in which ninety-two to one hundred and twenty-three grains were daily given, decided cyanosis was produced, and an examination of the blood revealed the presence of methæmoglobin.

PYRODINE.

This is a white crystalline product, sparingly soluble in cold water, and possesses very little taste.

Large amounts depress the heart and lower blood pressure by a direct action on the vaso-motor centre. It has a directly depressing action on the spinal cord and lowers reflex action. Repeated doses produce jaundice due to hæmo-globinæmia.

Doses of eight to twelve grains cause marked reduction of temperature in two to four hours. The temperature remains low for several hours, when a slight rise occurs and is followed by a second reduction, so that the action of a single dose may last an entire day. The reduction of temperature is accompanied by profuse sweating, but no collapse, vomiting or nausea have been noted even with a considerable fall of temperature.

It has been found a reliable antipyretic in pneumonia, scarlet fever, rheumatism, typhus and typhoid fever. In the latter it readily caused toxic symptoms, namely, jaundice, hebetude, icteric urine, albuminuria and hæmoglobinuria. It should never be given in larger doses than twelve grains, and only once in eighteen or twenty-four hours, and not continued for more than a few days. If these precautions are neglected, fatal symptoms may be rapidly induced. Doses of three or four grains have been been given to children.

METHACETIN, OR PARA-ACETANISIDIN.

This is the latest of the antithermic drugs. It occurs as a slightly reddish powder, of a slightly bitter taste, soluble in warm water, but less so in cold water, very soluble in alcohol. It is an efficient antipyretic, causing a fall of three to five degrees in a few hours, and frequently profuse perspiration. It may produce collapse, but so far no cases of vomiting, tinnitus aurium or erythema have been reported.

It is markedly poisonous to rabbits, doses of forty-five grains having produced convulsions and death. Its action seems to be similar to that of antipyrin. No hæmoglobinuria has been noticed.

We will now consider briefly the relative values of the internal antithermics:

The superiority of the recent antithermics has, since their discovery, led to the complete abandonment of the use of *salicylic acid* and *quinine* in fevers, except where they exert a specific action.

Kairin, on account of its dangerous, depressing action on the heart, and its destructive effects on the blood, has never been used to any considerable extent.

Thallin, although a prompt and powerful antipyretic, has so often produced violent chills, cardiac depression and gastro-intestinal irritation, that its use has steadily diminished.

Experience of *Methacetin* is still limited, but its poisonous action on animals and its tendency to produce collapse in man do not recommend it.

Pyrodine, as an antithermic, appears to be more prompt, powerful and prolonged in its action than antipyrin, acetanilide or phenacetine, but it also surpasses them in its abiltiy to produce sudden toxic effects, and is especially dangerous in typhoid fever.

A comparison of antipyrin and acetanilide shows the following points of difference: —

ANTIPYRIN.	ACETANILIDE.
Action more rapid, but more transitory.	Generally more prolonged and powerful.
More diaphoretic.	More diuretic.
Depressing after-effects.	Stimulating.
Gastro-intestinal irritant.	Non-irritating.
Easily toxic.	Rarely toxic.
Large dose.	Small dose.
Expensive.	Cheap.

These results are by no means uniform, but are sufficiently so to cause a general preference for acetanilide in febrile cases.

Phenacetine greatly resembles acetanilide in its physiological action and therapeutic effects, and so far as present experience shows is equally effective and even less liable to cause disagreeable or toxic symptoms.

REPORT ON PROGRESS IN THORACIC DISEASE.

BY F. C. SHATTUCK, M.D., AND G. G. SEARS, M.D.

PERICARDIAL PARACENTESIS AND PERICARDOTOMY.[1]

IN the course of a paper upon this subject Ferrier gives the following indications for surgical interference in cases of pericardial effusion:

(1) When the exsudation is dangerous, owing to its abundance; in case pleural effusion also exists, the latter should be first evacuated.

(2) When, even if small in amount, it shows no tendency to subside, and from its chronic course exposes the heart to fatty degeneration.

(3) When the effusion is purulent, and might give rise to septic conditions.

These indications are equally applicable in cases of tubercular pericarditis, although the results have not been altogether encouraging. Out of twenty-two cases which he has collected, twenty died after an interval varying from eight hours to seven months after operation, which, however, seemed fully justified by the relief afforded. The other two cases, who also had tubercular deposits in the lungs, recovered from the pericarditis, to which they would otherwise have inevitably succumbed. In hæmorrhagic pericarditis

[1] Bull. Gén. de Thér., 1889, Nos. 6 and 8.

better results have been obtained, as out of nine cases five have been saved.

Regarding the mode of interference, simple aspiration is sufficient when the exsudation is serous; but of fifteen cases of purulent effusion, eleven, treated by puncture, died, while of the remaining four, in whom incision and free drainage was practised, two recovered. (Rosenstein, West; to these should be added a successful case recently reported by Dickinson.—REPS.) The incision should be made as soon as the diagnosis is established, before degenerative changes in the myocardium have set in; and even when the exsudation is simply turbid, but not purulent, it may be proved to be better practice to incise immediately rather than to wait for the purulent transformation to be complete. Puncture should be made in the fourth or fifth interspace to the left of the sternum, and the same interspaces should be chosen when a permanent opening has been determined on. In both the successful cases the pericardial sac was irrigated, but that this may not always be a safe proceeding was shown in a case of Parker's, where it stopped a heart already weakened.

AN EARLY SIGN OF ENDOCARDITIS.[2]

Dr. Duclos, of Tours, writing in the *Revue Générale de Clinique et de Thérapeutique*, January 17, 1889, records a fact of his experience in regard to commencing endocarditis, which may possibly be of value as an aid in the early recognition of this affection. While in charge of a military hospital he chanced to have a large number of young soldiers suffering from acute, articular rheumatism under his care, and, while listening to the heart sounds of one of these patients, his finger being at the same time on the radial pulse, he was struck with the want of synchronism between the ventricular contraction and the pulsation at the wrist, the latter being delayed about two-thirds of a second. The following day a systolic apex murmur was heard. He afterwards took pains to note the occurrence of this phenomenon in other cases, and found that it was followed by a murmur at the end of from twenty-four to thirty-six hours in every instance. These observations were extended over several years, and were confirmed in a number of cases by Professors Parrot and Potain.

The author has no conclusive theory to offer in explanation of this phenomenon, but he thinks that it is probably due to a weakening of the muscular fibres subjacent to the endocardium. He compares it to the weakened respiratory murmur frequently observed at the beginning of pleurisy a few hours before a friction sound is developed or effusion takes place. He has noted the same want of synchronism in two cases of typhoid fever and in three of erysipelas, in which endocarditis subsequently developed.

Dr. Duclos draws some practical conclusions in regard to treatment based upon the early recognition of the affection, and he believes he has succeeded in arresting the disease in certain cases before irreparable injury had resulted. His plan is to apply immediately a large fly-blister over the precordial region, or, in default of this, a mustard plaster, dry cups or leeches. He increases also the dose of the remedy that is being given at the same time for the rheumatism. Of course, the patient is required to remain quiet in bed.

[2] New York Med. Rec., March 30, 1889.

MASSAGE OF THE HEART.[3]

Oertel has found in massage of the heart a method for improving the nutrition and the circulation, which may be employed either as a substitute for hill-climbing or in conjunction with it. It is performed in the following way: the masseur places his hands on either side of the chest of the patient, at the level of the fifth or sixth rib in the axillary line, and moves them forward and downward during expiration till the lower border of the seventh or eighth rib is reached, at the same time exerting pressure. This manœuvre should be continued during the entire expiratory period, which may be prolonged by the patient. As a result, expiration is more complete, the following inspiration is deepened, the heart's contractions rendered more powerful, and the volume of the blood-current increased. Oxygenation is thus more perfect, and improvement in the nutrition, not only of the entire system, but of the cardiac walls results. The direct pressure on the heart, though in many cases necessarily slight, is of value, like massage of other muscles, in emptying it of lymph and venous blood, especially that which flows into the auricle through the foramina Thebesii.

The indications for this form of treatment are found:

(1) In all cases of cardiac weakness, whether due to deficient nutrition or blood-formation, to excessive deposit of fat or fatty degenerations.

(2) In imperfect filling of the arterial system and venous stasis, chiefly in consequence of insufficiency of the cardiac muscle.

(3) Where increased demands are made upon the heart in consequence of some obstruction in the circulatory apparatus, valvular disease, pressure from tumors, emphysema, etc., in fact wherever compensation or compensatory hypertrophy must be sought.

(4) Especially in combination with exercise and hill-climbing in cases where they are indicated. The contra-indications are briefly as follows:

(1) Recent or repeatedly recurring endo-cardial or peri-cardial processes.

(2) Acute and subacute myocarditis in consequence of sclerosis of the coronary arteries.

(3) Sclerosis and atheroma of the arteries, especially when general.

SUPRA-CLAVICULAR HERNIA OF THE LUNG.[4]

Professor Chorel, of Brussels, reports an interesting case of supra-clavicular hernia of the lung occurring in a child of about three years of age. The child came into the hospital for a large cold abscess of the left thigh; which was treated by curetting and subsequent drainage. A short time afterward a tumor suddenly appeared above the left clavicle about the size of an orange, but becoming larger whenever the child cried or moved about. It was situated immediately behind the clavicle, and extended upward to about three fingers' breadth above it; laterally its boundaries were indistinctly marked. It was not tender, nor was the skin over it reddened or discolored. It was completely reducible, and gave to the touch a sensation of false fluctuation, such as is sometimes noticed in white swelling of the knee. On percussion it gave a tympanitic note, and on auscultation a soft, vesicular murmur was heard together with somewhat prolonged expiration, indicating the presence of pulmonary em-

[3] Münch. Med. Woch., 1889, Nos. 37-39.
[4] Lancet, May 18, 1889.

physema. The child, when admitted to the hospital was very thin and weak, and during the treatment of the abscess chloroform was required, which produced a serious amount of syncope; artificial respiration, having in consequence, to be kept up for some time. Professor Chorel suggests that the energetic movements then made when the lung was rapidly distended may have caused it to force its way through the lax connective tissue and the weak and wasted muscles of the supra-clavicular region. The treatment adopted was simple. Reduction was made and maintained by means of a piece of cardboard, well-padded and fixed by a spica bandage. A complete cure resulted. Professor Chorel is not aware of any other case of pulmonary hernia occurring in a child.

THE PROGNOSIS IN HÆMORRHAGIC PLEURISY.[5]

Tereboullet reports three interesting cases of hæmorrhagic pleurisy, terminating in full recovery. Aspiration was practised in all, but in one it was only partially successful, as the canula became choked by clotted blood. He concludes his paper as follows: "If we eliminate cases in which the hæmorrhagic effusion is due to severe infectious diseases, and dependent on the general low condition of the system, and consider that cancer of the pleura is relatively rare, and besides quite easily recognized, and if we admit as demonstrated by R. Moutard-Martin, that chronic phthisis almost never causes pleurisy other than dry or sero-fibrinous, the conclusion is forced upon us that in the immense majority of cases the hæmorrhagic nature of an effusion does not influence for the worse the prognosis in the disease. If the objection is made that in all cases a microscopic examination of the pleura demonstrates the existence of specific bacilli, it can be said that we have always had to distinguish between true tubercular pleurisies and those histologically tubercular which recover after a single tapping without the patient ever becoming phthisical."

THE BEHAVIOR OF TUBERCLE-BACILLI IN THE ANIMAL BODY UNDER THE INFLUENCE OF GERMICIDES.[6]

In the current number of the *Zeitschrift für Hygiena*, page 98, Cornet sums up the results of his experiments to determine the action upon animals inoculated with tuberculosis of eight germicides, most of which have been reported of value in the treatment of phthisis. Tannin, acetate of lead, "pinguin," sulphuretted hydrogen, menthol, acid corrosive sublimate, creolin and creosote were employed; but not one of them could be proved to have influenced the progress of the disease in a single case, although all were exhibited in maximal doses. For example, 250 c.c. of a 1-1000 corrosive sublimate solution were introduced into guinea-pigs daily, equal to eight ounces of the same solution in man; indeed, many of the animals either died from the effects of the drug, or showed marked symptoms of poisoning.

Before we can hope to introduce any very rational therapeutics in the majority of infectious diseases a more exact knowledge of the fate of pathogenic microorganisms in the body is necessary. As a result of a large amount of work which has recently been done in the endeavor to solve this problem, we can say little more than that, in some way or other, the tissues seem able to dispose of a certain number of microorganisms, or that there exists a certain relationship between the general vigor of the individual and his ability to dispose of them. From these considerations the inexpediency of attempting any germicidal plan of treatment must be apparent. It can only be weakening to the patient to introduce a large amount of poisonous material into the system, since this increases the amount of extraneous material which must be cared for by the tissues. The effect of high altitude (4,800 ft.) was also tried, but here again no positive result was obtained, and Cornet was obliged to conclude that there is nothing in high altitude, *per se*, unfavorable to the progress of tubercular disease.

THE TEMPERATURE OF THE EXPIRED AIR, WHEN INHALED AT 180° C.[7]

Mosso and Rondelli have made a number of practical tests, chiefly by experiments on animals, in order to determine the temperature of the exhaled air when it is inspired at a temperature of about 200° C. Their results are even less favorable to the method of treating phthisis by inhalations of hot air than those which have been thus far reported from clinical experience. Weigert's apparatus was the one employed. They inserted a thermometer into the trachea of a dog, forced it to breathe the heated air and found that directly under the larynx the temperature had already fallen from 160° to 37.8°, while the rectal temperature was 39°. The result was even more striking when the thermometer was pushed upward through the vocal cords into the pharynx, as the figures were almost identical with those obtained in the former experiment. It was also shown that the exhaled air being saturated with moisture, is of the same temperature whether inspired at 180° or 18°. The results of their other experiments simply corroborated those which have been mentioned, and seem to prove conclusively that inhalations of hot air can exert no therapeutic effect.

THE INFECTIOUSNESS OF MILK FROM TUBERCULOUS COWS.

In order to test the danger from the use of milk from cows affected with tuberculosis, Hischberger[8] has employed specimens from twenty such animals for making inoculation experiments on guinea-pigs. The greatest care was taken to preserve the strictest cleanliness and prevent infection from extraneous sources, and in every successful case the direct connection between the disease produced and the inoculation was proved by a post-mortem examination. Even in cases where a positive result was obtained the most painstaking microscopical examination failed to discover tubercle-bacilli except in one case, and in this the udder was affected. In the other cases the virulent character of the milk was due either to spores, or the bacilli were so few as to escape detection. The proportion of successful results varied from eighty per cent. in cases where the tuberculous process was far advanced to thirty-three per cent. where it was still confined to the lungs. The danger varied at different times, being present when spores from some focus of infection happen to be absorbed into the blood current and are excreted by the milk.

A similar series of investigations has recently been undertaken by Ernst,[9] who made bacillary examinations of 114 samples of milk from thirty-six cows suffering

[5] Gaz. Hebdom. de Med. et Chir., 1888, No. 4.
[6] Am. Jour. Med. Sciences, 1889, p. 386.
[7] Deut. Med. Woch., 1889, No. 27.
[8] Deut. Arch. f. Klin. Med., 1889, Bd. 44, p. 500.
[9] New York Med. Rec., September 28, 1889.

from tuberculosis of some other organ than the udder. Of these, seventeen specimens coming from ten cows were found to contain bacilli, which were present in the cream as often as in the milk. Healthy animals were then inoculated with the result of inducing the disease in fifty per cent. of the cases treated. Feeding experiments were also made, and were successful in a number of calves and young pigs. Both arrived at the same conclusion, that milk from cows affected with tuberculosis in any part may contain the virus of the disease, the virus being present whether the udder is affected or not.

Reports of Societies.

AMERICAN PUBLIC HEALTH ASSOCIATION.

THE Seventeenth Annual Session of the American Public Health Association, at Brooklyn, N. Y., which closed October 25th, has been well attended, and of more than ordinary interest. The relative attendance of members from distant sections of the country has not been quite so great as in former years.

Among the noteworthy and valuable papers presented were those by Mr. Atkinson, upon the "Art of Cooking"; by Professor Atwater, on "Food in its Relation to Health"; and by Dr. Sternberg, on "Recent Researches Relative to the Etiology of Yellow Fever." Dr. Lee's paper on the "Annexation of Cuba," awakened a lively discussion.

FIRST DAY. — TUESDAY, OCTOBER 22D.

MORNING SESSION.

The first paper presented was entitled

THE OVERSHADING OF OUR HOMES,

by DR. W. THORNTON PARKER, of Newport, R. I.,

The chief point urged was the necessity of sunlight as an essential condition to good health. He believed that the advantages secured by tree-planting associations were overestimated, and that the desire for dense and shady foliage near dwellings was misdirected. If tree-planting on a large scale is desirable, it should be intelligently conducted with reference to the interests of the public health.

DR. I. Y. HIBBERD, of Indiana, presented the subject of

CLOTHING IN ITS RELATIONS TO HYGIENE.

He stated that the clothing of civilized people of temperate latitudes should fulfil the following conditions: (1) It should meet the demands of modesty; (2) It should satisfy the cultured æsthetic taste in dress adornment; (3) It should protect against meteorological changes.

His conclusions may be summed up as follows:

(1) The popular and professional estimate of the hygiene of the skin is much below its real importance.

(2) The physiology of the skin cannot be largely interfered with without endangering the general health.

(3) One of the most influential factors in the sound health of man is to establish and maintain in his organization a resisting power to the causes of disease.

(4) The tendency is to overdress, enervating the skin and curtailing its power, and thereby the power of the whole system to resist the causes of disease.

(5) A proper exposure of the surface of the body to environing low temperature is a valuable general tonic.

(6) Ventilation of the skin is indispensable to good health.

(7) Habit may enable one to bear wide differences in clothing under similar surroundings without detriment, and this should impress the necessity of cultivating correct habits of dress.

AFTERNOON SESSION.

The first paper of the afternoon session was read by DR. JEROME WALKER, of Brooklyn, his subject being

THE CAUSES AND PREVENTION OF INFANT MORTALITY.

Dr. Walker gave, as illustration of the excessive mortality-rate of children, the statistics of Brooklyn for several years. He stated that this excess of mortality was due to a combination of a very large number of causes, which he enumerated. Special stress was laid upon the importance of better provisions in public institutions intended for this class of the population, and the following conclusions in regard to such institutions were stated:

(1) That a large proportion of the deaths in them are preventable.

(2) That the younger the children and the larger the number, the greater the mortality.

(3) That the mortality can be lessened, but the decrease costs money, time, patience, and energy, and to obtain the best results the attending and resident physicians should be reliable, should be given control over all medical and sanitary matters, and should be held responsible for the same.

He urged very strongly the need of more "country weeks," "fresh air funds," "seaside-homes for children," "summer camps," and the necessity of prolonging the stay of invalid children in open-air resorts, where the evils of over-crowding and of foul air could be counteracted.

Dr. Walker's paper was followed by another upon the kindred topic:

THE RELATION OF THE DWELLINGS OF THE POOR TO INFANT MORTALITY

in which, its author, ALFRED C. WHITE, C. E., gave a sketch of the better class of tenement-houses, which are now being built both in London and in our American cities. Special reference was made to the buildings of the Improved Industrial Dwellings Company, of London, and also certain dwellings of a similar character in Brooklyn, and the advantages which had been secured by them.

DR. GEORGE HOMAN, Secretary of the State Board of Health, of Missouri, advocated a minimum basis for the compensation of local health officers.

EVENING SESSION.

The evening of Tuesday was devoted to the usual Addresses of Welcome to the Association, and to the President's Address. The session was held at the Academy of Music. DR. J. H. RAYMOND, of Brooklyn, to whom the success of the meeting is largely due, opened the session with a brief introductory address, and was followed by other words of welcome by MAYOR CHAPIN, and by DR. ALEXANDER HUTCHINS, of Brooklyn.

DR. HOSMER A. JOHNSON, of Chicago, President of

the Association, then delivered the Annual Address, which was mainly devoted to a consideration of

THE GENERAL PRINCIPLES OF PUBLIC HEALTH.

He especially emphasized the following points:

(1) The need of organized bodies for sanitary administration.

(2) The duty of such bodies to remove or destroy every possible source of disease, and to so control the causes which cannot be removed, as to diminish to a minimum their deleterious influence on the public health.

(3) To prevent the introduction of diseases from without, by such means as shall be found to be most efficient to accomplish this end, and at the same time to produce the least interference with the social and commercial interests of the community.

Statistics were introduced of urban mortality-rates, brought down to very recent dates, both of foreign and of American cities, in support of his assertions of the possibility of limiting the death-rate by active sanitation.

The following paragraph is worthy of the attention of those legislators at Washington who have persistently neglected the national welfare in sanitary matters.

"As typhoid fever is a greater calamity than Texas fever, as Asiastic cholera is more to be dreaded than hog cholera, so do we need a Department of Public Health more than a Department of Agriculture; a bureau of vital statistics, more than a bureau of animal industry. Our national legislators create the machinery and appropriate money for the brute because, forsooth, it is property, and then grudgingly, if at all, look after the lives of our loved ones because they cannot be bought and sold. In all this they do what they have reason to believe their constituents demand. It is not so much legislators, as we, the people, who are at fault."

Brief addresses were also made by REV. DR. STORRS, and EX-MAYOR LOW.

SECOND DAY. — WEDNESDAY, OCTOBER 23D.
MORNING SESSION.

DR. JOHN S. BILLINGS, U. S. A., presented the first paper of the session, entitled

THE UNITED STATES CENSUS IN ITS RELATION TO SANITATION.

This was a very timely presentation of the necessity of thorough registration of vital statistics, as an aid to public health. Without such statistics nothing could actually be known of the progress of sanitation, and of its effect upon the health of a community.

You must produce constant, undeniable evidence that the work is needed and is useful; evidence that will convince the press and the majority of the community, and this evidence must be mainly death-rates, to which should be added all the sick-rates that can be obtained.

To give these death-rates you must have a complete registration of deaths and a corresponding enumeration of the population, and you ought to have a complete registration of births.

Before this Association meets again the eleventh United States census will be taken, and its methods, its completeness and the mode in which its results will be tabulated and published are of great interest and importance to all who are interested in sanitary science or in public health work in this country.

One of the most important questions, then, to be settled before the census is taken, is: What shall be the boundaries of the special districts of the city for which a separate statement of the population is desired?

For about a dozen of our large cities it is proposed to make a systematic division of the area into sanitary districts having special relations to altitude, character of habitation or population, etc., and to have special death-rates calculated for each of these districts. This being done in conference with the health authorities of these cities, and it is hoped that in this way some very interesting data will be obtained which will serve as a foundation for sanitary work in the future. Such districting has been arranged for Boston, New York, Brooklyn, Washington, New Orleans and Louisville, and the work is in progress for other cities. In investigating the details of the records of deaths kept in different cities I have noted deficiencies in a few of them to which I wish to call the attention of all who have to do with the registration of vital statistics.

(1) All deaths occurring in hospitals should be charged to the ward or district of the city from which the patient was taken to hospital, when this can be ascertained. Otherwise the death-rate in the ward in which the hospital is located will be too high, and in the other districts it will be too low.

(2) The birthplace of the parents of the decedent should be reported. We want to know the race of the decedent — whether he was German, Italian, Irish or American, and to give merely his own birthplace is not sufficient.

(3) It is very desirable that in all cases of colored persons it should be stated whether the decedent was black or of mixed blood, such as mulatto or quadroon.

I have no authority to make specific promises, but I believe that the reports of the next census, in which the members of this Association are specially interested, will be published as soon as it is possible to compile them, and will be distributed to those sanitarians and physicians who need them in their work, and who make timely request for them; and thus believing, I do not hesitate to ask the cordial co-operation of all members of this Association to make the data upon which these reports are founded as full and accurate as possible.

A lengthy discussion followed the reading of Dr. Billings' paper.

DR. MCCORMACK, of Kentucky, offered the following resolution, which was referred to the Executive Committee.

Resolved, That in view of the rapidly increasing commercial intercourse and travel between this country and Mexico and Cuba, and the consequent growing importance of establishing and cultivating the most friendly relations between the health authorities of our own and those of the countries above-named, that a cordial invitation be extended to the sanitary authorities of Mexico and Cuba to send representatives to future meetings of this Association. That the secretary be instructed to open correspondence with the authorities looking to this end.

A paper on the

PREVENTION OF PHTHISIS PULMONALIS AND METHODS FOR ITS LIMITATIONS,

was read by DR. EZRA M. HUNT, secretary of the State Board of Health, Trenton, N. J.

DR. WILLIAM M. SMITH, health officer of the port of New York, then made a report upon the

IMPROVEMENTS AT THE NEW YORK QUARANTINE STATION,

with stereopticon illustrations.

After the adjournment of the morning session, by invitation of Health Officer Smith, the Association visited the Quarantine Station in the Lower Bay, no session being held in the afternoon.

EVENING SESSION.

At the evening session, DR. GEORGE M. STERNBERG, U. S. A., an ex-president of the Association, presented an illustrated paper entitled

RECENT RESEARCHES RELATIVE TO THE ETIOLOGY OF YELLOW FEVER.

He stated that his inquiries upon this subject, conducted under the authority of Congress, were not completed, and that in his opinion it could not be confidently asserted that the specific microbe of yellow fever had yet been isolated, and its characteristics described. His most recent inquiries were made in Havana, and embraced the period from March till September, 1889. An abundance of material was afforded for examination, and thirty autopsies were made upon the bodies of Spanish soldiers. Dr. Sternberg described his methods of inquiry; his cultures being made in peptone gelatine, agar-agar with glycerine, and especially in the milk of the unripe cocoanut, which he found to be an excellent material for the purpose. Blood was obtained from all of the viscera for observation, together with urine drawn through the wall of the bladder, and material from the stomach and intestines. The special micro-organisms which he had found in connection with this disease, and had cultivated and subjected to further experiment upon animals, were demonstrated upon the screen.

Dr. Sternberg gave due credit to the researches of Freire, of Finlay and of Gibier, but does not consider either of the bacilli named by these observers to be the specific micro-organism of yellow fever.

DR. THEOBALD SMITH, of Washington, D. C., presented a paper entitled

PRELIMINARY OBSERVATIONS ON THE MICRO-ORGANISM OF TEXAS FEVER,

which was followed by a paper by Dr. D. E. SALMON, presenting

SOME GENERAL OBSERVATIONS ON TEXAS FEVER IN CATTLE.

Much interest centred upon the presentation of the subject of the

ART OF COOKING,

by EDWARD ATKINSON, LL.D., which was illustrated by a practical demonstration of an economical and sanitary mode of cooking. The following positive propositions were made by the speaker:

(1) Special apparatus for boiling and frying has been adequately and suitably developed for the use of those who can afford these somewhat wasteful methods of preparing food, yet excellent when skilfully practiced.

(2) The ordinary methods of frying are utterly bad and wasteful.

(3) Bread may be baked suitably in a brick oven, and also economically, when the work is done upon a large scale.

(4) It is very difficult to bake bread in a suitable way in the common iron stove or range; for this, among other reasons, most of the bread consumed in this country is very bad, although we have the greatest abundance of the best material.

(5) Meats may be well roasted in a costly manner before an open fire.

(6) Aside from the exceptional apparatus or methods named, substantially all the modern cooking-stoves and ranges are wasteful and more or less unsuitable for use. All the ordinary methods of quick baking, roasting and boiling are bad; and, finally, almost the whole of the coal or oil used in cooking is wasted.

(7) The smell of cooking in the ordinary way gives evidence of waste of flavor as well as a waste of nutritious properties; and in most cases the unpleasant smell also gives evidence that the food is being converted into an unwholesome condition, conducive to indigestion and dyspepsia.

(8) Nine-tenths of the time devoted to watching the process of cooking is wasted; and the heat and discomfort of the room in which the cooking is done, are evidence of worse than waste.

(9) The warming of the room or house with the apparatus used for cooking is inconsistent with the best methods of cooking, and might be compassed at much less cost if the process of cooking were separated from the process of warming the room or dwelling.

(10) No fuel which cannot be wholly consumed is fit to use in the process of cooking, and any chimney which creates a draught upon the fuel when in the process of combustion, like the ordinary chimney of a house, is worse than useless, since it wastes the greater part of the heat generated from the fuel.

The true science of cooking consists in the regulated and controlled application of heat by which flavors are developed, and the work of conversion is accomplished. For this purpose a quantity of fuel is required which is almost absurdly small compared to the quantity commonly used.

Dr. Atkinson then proceeded to show that most of our methods of cooking in families are wasteful, and that the operation may be performed in a satisfactory manner by the heat of a kerosene lamp of proper construction. He stated the principles of the science of cooking as follows:

(1) The heat should be derived from fuel which can be wholly consumed or wholly converted into the products of complete combustion without any chimney except that of the lamp or burner. The fault with coal, especially anthracite, is that it is not evenly or wholly consumed; hence the need of a chimney to take away the gases developed and not wholly consumed; but the chimney also carries off the greater part of the heat. It is very evident that the crude combustion of coal and the direct application of the heat generated will ere long give way to more scientific methods of consuming the gaseous products, and of deriving the heat from the final combustion of the gaseous products in all arts. In the matter of cooking, kerosene oil burned in any one of the types of lamp which have a central duct to convey oxygen from below to the inner side of a circular wick, when properly trimmed and served with well-distilled oil, gives substantially perfect combustion. The same may be said of illuminating gas when used in one of the burners of the Bunsen type which supply an excess of oxygen and yield the blue flame. The combustion of oil and of gas can be brought under absolute control

by gauging the size of wick or burner to the work to be done.

(2) The oven in which the food is to be subjected to this measurable and controllable source of heat must be so constructed that the heat imparted to it may be entrapped and accumulated up to a certain measure or degree and then maintained at that temperature without substantial variation until the work is done. This can be done by jacketing the oven in a suitable way with material which is uncombustible and also a non-conductor of heat.

(3) There should be no direct communication between the true oven or receptacle in which the food is placed and the source of heat, lest the products of incomplete combustion should sometimes taint the food, and lest the food should be exposed to being in places burned or scorched.

At the close of the evening session the audience were supplied with a lunch which had been prepared in the cooking-apparatus which was upon the platform.

The substance of this address may be found in the November number of the *Popular Science Monthly*.

THIRD DAY. — THURSDAY, OCTOBER 24TH.

MORNING SESSION.

A considerable share of the morning session was devoted to the consideration of the subject of

GARBAGE DISPOSAL,

which had been discussed quite thoroughly at the previous annual meeting at Milwaukee, in 1888.

Dr. R. Martin, of Milwaukee, detailed the method at present in use in that city. At the meeting of the Association in Milwaukee in 1888, a furnace had just been erected for the purpose of cremating the garbage of the city. Since that date, the process by cremation had been abandoned, and the Merz process substituted in its place. This process, which is also in operation at Buffalo, and elsewhere, consists in submitting the garbage to a rendering process, and extracting the fats, or oils, and utilizing the remainder for fertilizers.

Dr. Kilvington, of Minneapolis, followed with a paper, entitled

STATISTICS ON RIVER POLLUTION, WITH OBSERVATIONS RELATING TO THE DESTRUCTION OF GARBAGE AND REFUSE MATTER.

In this paper were presented the substance of replies to a circular issued to 175 cities of the United States. Replies were received from 66 only, and many of them had no data upon the subject to offer. He stated that in the Mississippi River during the past year, eight cities alone deposited 152,675 tons of garbage and offal, 108,250 tons of night-soil, and 3,765 dead animals. In the Ohio River, five cities in the same period dumped 46,700 tons of garbage, 21,157 tons of night-soil, and 5,100 dead animals. In the Missouri River, four cities cast 36,000 tons of garbage, 22,400 tons of night-soil, and 31,600 dead animals, and many of these animals were killed and thus disposed of because they were suffering with disease dangerous to the public health. Dr Kilvington denounced this method of disposal as a sanitary crime, and counselled better methods.

The subject of

FOOD IN ITS RELATION TO HEALTH,

was presented by Prof. W. O. Atwater, of Washington, D. C.

He presented a chart upon which were graphically shown the dietaries of different classes of people, with reference to the relative amount of protein, fat, and carbo-hydrates in each, and also the potential energy furnished by the diet of each class. These were compared with the standard dietaries of armies, and also with the standards proposed by Voit, Atwater and others. The lowest dietary was shown to be that of English sewing-girls, and the highest, that of brick-makers at Cambridge, Mass. Those of American laborers were generally higher than those of the same classes in other countries.

The reading of these papers drew forth a lively discussion until the hour of adjournment.

AFTERNOON SESSION.

The meeting on Thursday afternoon was held at the Hoagland Labratory, where the members assembled a half-hour before the time of meeting, and were shown the different methods and appliances employed for advanced scientific research, to which the Labratory is admirably adapted. It is under the direction of Dr. Sternberg. The Association met in the principal lecture-room on the first floor.

The two papers first presented were upon kindred subjects.

Dr. E. Playter, of Ottawa, presented the subject of

THE PREVENTION AND RESTRICTION OF TUBERCULOSIS IN MAN;

and Dr. P. H. Kretzchmar, of Brooklyn, that of

THE PREVENTION OF PULMONARY CONSUMPTION.

The latter was mainly devoted to a description of a small receptacle intended for receiving and disinfecting the sputa of consumptives.

Dr. Cyrus Edson, of New York, followed with a paper entitled

THE DISINFECTION OF DWELLINGS BY MEANS OF SULPHUR DIOXIDE.

Dr. Edson gave the results of the experience of the Board of Health of New York with this agent, and affirmed his belief in its efficiency for the disinfection of apartments. The paper was followed by a lengthy discussion, in which very diverse opinions were expressed as to the value of this disinfectant. Some of the members expressed entire confidence in its efficiency as advised by the committee on disinfectants of the Association, the necessity of the presence of moisture having been more definitely shown by recent experiments; while others doubted its efficiency.

EVENING SESSION.

In the evening the Association assembled at the Brooklyn Institute, and listened to an entertainiug lecture by Rev. C. R. Treat upon

SANITARY ENTOMBMENT,

in which the subject of burial in general was very fully presented. Abundant illustrations being given of the various modes of burial, from the earliest ages, to the present time. The object of the presentation of this subject was to demonstrate the advantages of a newly proposed mode of burial, in which the bodies of the dead were to be placed in a large stone or brick structure, where they are to be desiccated by the applications of dry, hot air, the effect being the same as

that which ensues in some of the high and dry climates of the earth. The subject was illustrated by fine stereoptic views, and was evidently designed as a presentation of the subject for a popular audience.

Dr. Benjamin Lee, Secretary of the State Board of Health, of Pennsylvania, read a paper entitled

DO THE SANITARY INTERESTS OF THE UNITED STATES DEMAND THE ANNEXATION OF CUBA?

in which he expressed himself in the affirmative. The reason presented was the frequent existence in Havana of three diseases dangerous to the public health, — yellow fever, small-pox and leprosy. Dr. Lee gave some personal observations as to the prevalence of leprosy, and stated that the United States should be able to control the population of Cuba.

As an appropriate supplement to this paper, Dr. P. A. Morrow, of New York, exhibited a fine collection of

PHOTOGRAPHIC VIEWS OF LEPERS

in all stages of the disease, the greater part of which were taken at the leper colony at Molokai, Hawaiian Islands.

FOURTH DAY. — FRIDAY, OCTOBER 25TH.

Invitations having been received from official or other sources from at least six cities of the United States, or of Canada, it was finally decided that the next meeting should be held at Charleston, S. C., at a date not earlier than November 1, next year. The following officers were then elected for the ensuing year: *President*, Dr. Henry B. Baker, of Michigan. *First Vice-President*, Dr. F. Montizambert, of Quebec. *Second Vice-President*, Dr. J. H. Raymond, of Brooklyn. *Secretary*, Dr. I. A. Watson, of New Hampshire; *Treasurer*, Dr. J. B. Lindsley, of Tennessee. *Executive Committee*, Drs. L. F. Salomon, of Louisiana; W. Bailey, of Kentucky; H. B. Horlbeck, of South Carolina; W. Wyman, of Washington, D. C.; J. F. Kennedy, of Iowa; and P. H. Bryce, of Toronto.

The following papers were then read, the two latter by title only:

THE NECESSITY FOR A MORE VIGOROUS INSPECTION OF MEAT-PRODUCING ANIMALS AT THE TIME OF SLAUGHTER,

by Dr. D. E. Salmon, Chief of the Bureau of Animal Industry, Washington, D. C.

THE CAUSES OF INFANT MORTALITY,

by Dr. R. O. Beard, of Minneapolis, Minn. The reading of this paper was followed by discussion, and the appointment of a committee of which Dr. Jerome Walker, of Brooklyn, is chairman, to report on the

CAUSES AND PREVENTION OF INFANT MORTALITY.

The two final papers presented, related to the

MANUFACTURE OF OLEOMARGARINE, AND LEGISLATION RELATIVE TO THE SAME.

They were written by Dr. E. Richards, Government Microscopist, Washington, D. C.

The Association then adjourned till November, 1890.

An exhibition of sanitary goods and appliances was held at the corner of Fulton and Pineapple Streets, during the session of the Association. The principal articles exhibited consisted of models of apparatus for garbage disposal, plumbing appliances, patent foods, mineral waters, sanitary clothing, athletic apparatus and disinfectants.

AMERICAN GYNECOLOGICAL SOCIETY.[1]

SECOND DAY. — MORNING SESSION.

A CASE OF ABDOMINAL LIPOMA SIMULATING OVARIAN TUMOR,

by Dr. A. Reeves, Jackson, Chicago.

A multipara, previously in good health, had for two years complained of pelvic pain, abdominal enlargement and an increasing cachexia. An elastic, semi-fluctuant tumor was found, extending from the pelvis to three inches above the umbilicus. A laparotomy showed this tumor to be a lobulated lipoma, springing from the peritoneal folds of the mesentery and the retro-peritoneal space. It was not removed, the wound was closed and the patient recovered. These tumors are excessively rare. Cases have been reported by Péan, Spencer Wells, Barbour, Byford, and Homans. The tumors in all cases were retro-peritoneal. The diagnosis in all had been faulty and all but two of the operations had resulted fatally.

DISCUSSION.

Drs. S. C. Gordon, W. C. Goodell, and Fordyce Barker had each seen similar cases, in all of which operation had been fatal. It seems strange that the removal of a simple lipomatous mass should be followed by such grave results.

Dr. H. C. Coe thought there might be an element of malignancy about these tumors. He had seen two cases where microscopical examination showed undoubted malignancy, though the gross appearances were like lipoma.

Dr. Engelmann doubted whether all the cases reported were lipomata and not fatty degeneration of the omentum.

Dr. Jackson said that all the cases were distinctly sub-peritoneal fatty tumors.

The president then delivered the

ANNUAL ADDRESS.[2]

After a historical reminiscence, he proposed the question, Shall we do laparotomy immediately before or during menstruation? His second case of laparotomy, nearly twenty years ago, was done during menstruation. Recovery was particularly rapid. Since that time he had operated often at this period, and had never lost a patient. So that his experience led him rather to choose the period of menstruation for laparotomy. The pelvic circulation was then active and the derivative effect of the local bleeding seemed to lessen the chances of inflammatory trouble.

DISCUSSION.

Dr. William Goodell had performed ovariotomy six times during menstruation and had removed the ovaries in a case of fibroma once. He had seen no ill results and thought such a time not inopportune. He would, however, not care to perform myomotomy or hysterectomy at that time.

Dr. A. P. Dudley had noted in most cases a

[1] Continued from page 437 of the Journal.
[2] See this Journal for September 26, p. 296.

bloody vaginal discharge after removal of the tubes or ovaries. He would be willing to operate during menstruation, but would employ vaginal douches to keep the parts clean and aseptic. He had done hysterectomy during menstruation without any evil results.

DR. R. BATTEY, Rome, Ga., said there was a constant metrostaxis on the second or third day after operation upon the appendages. He had not operated during menstruation on account of popular prejudice, though it was a historical fact that the original Battey's operation had been performed at this time.

DR. CORNELIUS KOLLOCK, Cheraw, S. C., thinks menstruation acts like a drainage-tube and sees no objection to operating during the flow.

DR. COE thought it important to differentiate between the various operations in the discussion.

DR. PAUL F. MUNDÉ had often operated during menstruation. He found no difficulty from hemorrhage during the operation, and no increase in the flow following it. He would not choose the menstrual period, but would not postpone his operation on account of it. Extra care, however, should be used to prevent sepsis, and an absorbent pad should be applied to the vulva. He would not advise the removal of the myomatous uterus during menstruation.

DR. A. J. C. SKENE, Brooklyn, thought the experiences narrated proved nothing. Metrostaxis after laparotomy is different from menstruation. In general, severe surgical operations should be avoided during the performance of any vital function. In some menorrhagic cases, which were stronger just before menstruation, it might be well to operate at that time.

AN EXPERIENCE WITH SLOUGHING INTRA-UTERINE FIBROIDS,

by DR. ELY VAN DE WARKER, Syracuse, N. Y.

The paper was based upon the following cases:

CASE I. Sloughing intra-uterine fibroid in a subject of extreme obesity. Operation of the total removal abandoned, and the sloughing layers of the tumor removed with the curette. Recovery, and death some years subsequent to operation, with symptoms of malignant uterine disease.

CASE II. The patient had been forty-six years of age; had had one child; history of repeated abortions. Extreme blood loss and high temperature, with œdema of extremities; cervix very resistant. Rapid dilatation and removal of fibroid in sloughing condition. Recovery, and death in a year after from chronic nephritis.

CASE III. Patient aged thirty, sterile; fibroid extruded entirely from the uterine cavity and pendulous within the cavity of the cervix, with low insertion of pedicle. Tumor in a sloughing condition; hæmorrhage and pyrexia. Operation and recovery.

CASE IV. Patient, aged forty, had had three children. Rapid disappearance of a pelvic tumor, attended by severe flooding, and demonstrating the presence of an intra-uterine fibroid in a sloughing condition two weeks subsequently. Extreme high temperature and exhaustion. Operation and recovery, complicated with hystero-tetanus without trismus, preceding the operation. The neurotic symptoms relieved by bromide of potassium and asafœtida.

CASE V. Patient, aged fifty-one, had had several children. Long-continued error in diagnosis, the uterine symptoms being ascribed to cancer for fourteen years. Blood loss continued with more or less activity for that period. Sloughing intra-uterine fibroid demonstrated. Pyrexia for about four weeks; exhaustion extreme; blood loss so excessive that mucous membranes were blanched. Operation and death from shock.

The following summary was based upon the facts connected with this group:

(1) That the use of the curette to remove the sloughing periphery of an intra-uterine fibroid is justifiable when it is non-removable from any complication (as in Case I from excessive obesity), or in cases of extreme exhaustion that render extirpation extra hazardous.

(2) That the process of sloughing begins at the outer layers of the mass and extends layer by layer into its deeper structure.

(3) That rapid dilatation of the cervical canal affords ample space for the manipulations of removal; and that sponge tents and other slow methods of dilatation are unnecessary (Case IV).

(4) That fibroids, formerly intra-uterine, when extended from the uterus and pendulous in the cavity of the cervix with its pedicle therein attached, were rarely found in a sloughing condition; and that Case III was an exception to this rule.

(5) That a form of hystero-tetanus, without trismus, might follow either certain forms of blood-poisoning or uterine lesion (Case IV). Within the experience of the author this condition, only met with in the puerperal state, was attended with septicæmia.

(6) That blanched mucous membranes, in excessive and long-continued blood loss due to intra-uterine fibroids, afford a certain indication that the limits of safety have been reached in operative treatment of sloughing fibroids, and that a doubtful prognosis must be given (Case V).

(7) That septicæmia with long-continued pyrexia is necessarily a fatal condition when due to a sloughing fibroid, unless relieved by the removal of the offending mass; that removal, wholly or in part, is a life-saving operation and is imperative; that the operation is comparatively easy and attended with but little danger, except in cases of blanched mucous membranes.

DR. S. C. GORDON, Portland, Me., had seen a case in a woman of fifty, where there had been a flow for two years with cachexia, simulating cancerous disease. Examination, however, showed the trouble to be caused by a sloughing submucous fibroid. This was successfully removed by the curette.

DR. M. D. MANN, Buffalo, spoke of a case where a large amount of sloughing tissue was removed and the uterus washed every two hours. The symptoms recurred in two months and the operation was repeated. This was done six times with uniform good results. After a seventh operation by another physician the woman died from septic poison. In another case there was severe metrorrhagia caused by an enormous submucous fibroid. The ovaries and tubes were removed, but the hæmorrhage continued. After a time, galvanopuncture with a current of 200 milliampères was employed. This induced strong uterine contractions which appeared daily for a couple of hours. The os uteri became completely dilated, but the mass was too large to be forced down and began to slough. By morcellement with the spoon-saw he removed the necrotic tissue up to the pelvic brim, then enucleated the tumor manually. Failing to deliver it with obstetric forceps, he was obliged to do laparotomy. He found the uterus

entirely adherent to the anterior abdominal wall, so that the peritoneal cavity was not opened, and delivered a fibroid as large as an adult head. Recovery was good. He thinks he might be criticised for proceeding so far at first that it would have been dangerous to allow the mass to remain. He had carried infection over the whole surface of the uterine cavity, therefore he had to complete his operation by laparotomy.

DR. R. BATTEY, said that the sloughing fibroids might be mistaken for malignant growths as they generally occurred at that period of life when cancer is usually found.

DR. CORNELIUS KOLLOCK had a case where a twelve-pound sloughing fibroid was removed per vaginam, and some time after the uterus, a three-months' fœtus, and fifteen fibroids were removed by laparotomy. The patient died from sudden heart failure.

DR. GOODELL said the operative removal of large fibroids might require several sittings. The guarded crotchet he considered a better instrument for their removal than the obstetric forceps.

DR. VAN DE WARKER considered the etiology of the sloughing fibroids to be this: it was first intramural, then submucous, then pediculated and finally strangulated, the blood supply being cut off by the displacement of the tumor and by uterine pressure.

DR. WYLIE said the first thing is to render the sloughing tissues aseptic. He would not use a tampon. There might be decomposition without odor.

DEATH FROM VISCERAL AFFECTIONS AFTER LAPAROTOMY,

by DR. H. C. COE, New York.

In spite of the remarkable improvement in the statistics of laparotomy in the last few years, there was always a number of cases where the cause of death seemed inexplicable. To study such cases by the light of anatomical, pathological research, he had reviewed the records of the Woman's Hospital and had found 85 cases where the autopsy had revealed serious visceral lesions which were either the direct or indirect cause of death. Deaths after ovariotomy were usually attributed to septicæmia, peritonitis or shock. Deaths from visceral complications were, however, more frequent than was generally supposed. They might be the result of pulmonary, cardiac, renal, or gastro-intestinal lesions. Cardiac lesions were not uncommon and might exist before operation or develop subsequently. Valvular lesions were less dangerous than fatty degeneration or dilatation. Cardiac paralysis might occur from the sudden withdrawal of a large amount of blood from the circulation after removal of the tumor. Irritation of the abdominal sympathetic plexus was a potent, though obscure cause of heart failure after laparotomy. Pulmonary lesions, even when quite extensive, might be overlooked and found only on autopsy. Pleurisy was a common complication. If repeated careful examinations of the urine were not made, renal affections of extreme importance might be overlooked. Undoubtedly some patients died of uræmia due to chronic kidney disease with an acute exacerbation after an operation. Interstitial nephritis and acute pyelitis were very serious complications.

AFTERNOON SESSION.

RENAL DISTURBANCES CAUSED BY DISEASE OF THE PELVIC VISCERA,

by GEORGE G. ENGELMANN, St. Louis.

The author calls attention to the various forms of nephritis which may result from uterine or pelvic disease, considering more especially those forms following compression of the uterus. This pressure may result from the involvement of contiguous structures, as pelvic inflammation or malignant growths; from within by septic or gonorrhœal inflammation of the mucous tract; by pressure from displaced organs, by neoplasms or inflammatory products; and by reflex nerve influence which may disturb circulation and secretion; by perverted nerve action due to the intimate relation of the renal and uterine plexuses; the renal anæmia of pregnancy, etc. The progress of these cases is very slow, and they are not usually recognized until the symptoms become severe and dangerous. Relief is then doubtful unless the cause of the trouble can be removed. The prognosis in most cases is serious, as they are not detected until revealed by pus or casts in the urine, by renal pains or œdema. The final results will be materially changed when the causative conditions are more thoroughly understood and attention more generally directed to them. The point of obstruction is often difficult to find. The ureter in many cases may be palpated as a thickened cord through the abdominal walls in its upper portion, but in the pelvic portion palpation may show no changes when the obstruction is above the pelvic brim. The urine is variable on account of the usually unilateral obstruction and may be perfectly normal, Medicine is of but slight assistance in the treatment, for to be successful we must find the cause of the obstruction and remove it. We may open a way temporarily by dilating the ureter and we may thus remove a plug of mucous and often afford relief from pain. It may be necessary to treat the ureter through the bladder, either by urethral dilatation or an artificial vesico-vaginal fistula. Emmet has attained the desired result by stitching the ureter into the vagina. If the kidney cannot be relieved in any of these ways, we must attack it directly and drain, remove concretions, or dilate the ureter from above. Nephrectomy is the last resort.

DR. POLK said renal complications were most important, and we should never interfere surgically where there is even renal insufficiency. Patients, whose urine is not up to the standard, are apt to have degenerative changes in the kidneys and heart, and any additional strain is dangerous. Chloroform is the best anæsthetic for these cases. In the after-management, opiates should be avoided, as they increase the chances of a fatal result by preventing the proper excretion of effete material.

DR. H. C. COE was surprised to find how easily the ureter could be compressed and pyelo-nephritis be present without symptoms. He had made careful autopsies in four cases where the kidney had been entirely destroyed, and the point of ureteral compression was marked only by a small cicatrix in the broad ligament.

DR. B. B. BROWN had, in several cases, found ureteral palpation of great value.

DR. T. A. EMMET had found a common cause of trouble after labor in œdema induced by compression of the tissues in front of the cervix. This interfered with the passage of urine through the ureters, and could be easily detected by bimanual palpation after labor. Catheterization helped by overcoming the œdema and allowing the passage of urine.

(To be continued.)

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

MAY 8, 1889. The meeting was called to order at 8 o'clock, by DR. A. L. MASON, Chairman.

The first business was the reading of a communication from the Committee of Arrangements of the Massachusetts Medical Society, relative to a request preferred before that body by the Secretary of this Section, asking that the Committee authorize the necessary expenditure in order to secure the presence of Professor Putnam of Cambridge at the next meeting of the Section, to be held on the first day of the annual meeting of the Massachusetts Medical Society, in June. The sole expense involved consists in the cost of transportation of the collections of Professor Putnam, with certain apparatus, from the Peabody Museum in Cambridge to the hall in Boston, and its return to Cambridge.

The Committee of Arrangements decided that the request of the Section could not be allowed, and suggested that voluntary contributions be solicited from the members of the Section for defraying the expenses incurred. On motion of Dr. H. I. Bowditch it was voted that the Secretary of this meeting be a committee of one, to arrange for the next meeting.

EMPYEMA.

DR. JOHN G. BLAKE exhibited two patients, both little girls, from his service at the City Hospital, each of whom had been the subject of empyema, and in which, in each case, there had been aspiration of the thorax followed by free incision of the wall of the chest, and drainage of the pleura. The cases were treated by means of the Cabot dressing, and have both made an uninterrupted recovery. In each case there was at the time of exhibition, the appearance of perfect restoration to a state of health, and the respiratory murmur was heard clearly to the bottom of the chest.

Dr. Blake remarked that the cases of empyema in the children which he was going to exhibit reminded him of the saying attributed to Dr. Johnson, "that Lord Mansfield illustrated what could be made of the natives of a certain portion of the British Empire when they were caught young." Certainly no cases could better demonstrate rapid and complete recovery from this disease than the two little girls who were present for examination. When these children entered the hospital their condition was pitiable in the extreme; greatly emaciated, with harassing cough, impeded respiration and symptoms demanding immediate relief by aspiration. The treatment by permanent opening and antiseptic dressings without syringing the thoracic cavity, and without the use of anæsthetics other than a local spray at the point of incision, was completed within six weeks. But very little if any difference can be detected now by auscultation between the two sides of the chest. Their physical condition now is rapidly improving, they are fat and rosy and cheerful, improving every day and promise soon to be all that could be desired. The clinical history from the hospital records would furnish interesting details of the cases.

PYO-PNEUMO-THORAX.

DR. A. L. MASON showed a man, forty-five years old, who had been operated on in November, 1887, for pyo-pneumo-thorax. The left pleural cavity contained a quart of pus and communicated with the bronchi. Recovery took place in four months and he had not lost a day's work in the past year. Measurement of the left side showed contraction of an inch and a half.

In contrast to the children shown by Dr. Blake, this case illustrated the slow obliteration of the cavity in adults, where firm adhesions prevent the expansion of the lung. The patient refused to permit an operation without ether, which was administered in moderate quantity, and he came out of it well, answering questions and talking rationally.

An interesting and dangerous complication occurred during the irrigation of the pleura. As the secretion was foul, the cavity was washed with a warm carbolized solution, 1 to 100.

After the introduction of about five ounces the patient became unconscious suddenly, and had severe general convulsions with dilated pupils. He was cyanotic, and the breathing nearly ceased. Artificial respiration and the injection of stimulants were resorted to, and, after three-quarters of an hour, the patient slowly rallied.

The foul odor, septic symptoms, fever and sweating, made frequent subsequent washings necessary but there was no recurrence of these convulsions. The amount of fluid injected was too small to cause distension, as there was free exit and the cavity had contained a quart of pus.

Such accidents have been often reported and call for unusual care in washing out the pleural cavity. They have been attributed to shock to the sympathetic nervous ganglia, and have been caused by warm water alone, according to reports in medical literature. Death has sometimes ensued. But one other case has occurred at the City Hospital, out of a large number of empyemas, in which similar but less severe symptoms had been observed.

DR. E. N. WHITTIER, by invitation of the Chairman, presented a paper upon

THREE CASES OF PURULENT EFFUSION IN THE ABDOMINAL CAVITY.

Dr. Whittier said: I doubt, Mr. Chairman, if any subject in medicine offers a more promising field for study and research, than that which will undoubtedly be admirably and clearly presented to us by Dr. Mason's paper. I doubt, if to the attending physician, any subject is more involved in obscurity and in doubt as to diagnosis and etiology, and as to where the line should be drawn between medicine ("so-called") and surgery; and I very much doubt if anything but the very largest experience and knowledge of the subject will afford the requisite guide for the proper treatment of this class of disorders.

I do not feel that my own personal experience or knowledge has been at all satisfactory in its results, but kindly permit me to cite three cases which have come under my observation, as a contribution to the subject.

CASE I. Mrs. F., sixty-eight years old. During the last twelve years has had three previous attacks of pain in region of right kidney and right hypochondrium, and lasting from two weeks to three months, but unexplained by the passage of biliary or renal calculi.

December 24, 1888, she was taken ill with very severe pain in the same region, most marked in region of kidney.

December 26th, pain unabated, and requiring continued hypodermics of morphine. Temperature, 104.5°. Tenderness and pain also very severe in front, in the region of gall-bladder, but no tumor could be detected.

December 28th. Temperature, 100°.

January 2d, the pain has been gradually diminishing for several days. Can now detect a slight fulness in upper half of abdomen on right side. Palpation detects a deep-seated tumor in this region, extending nearly to median line, continuous with liver dulness above, extending downwards and obliquely towards the umbilicus. The thickness of the abdominal wall masked somewhat the outlines of this mass, but it was firm and resisting, not particularly tender on pressure, nor affording any distinguishing diagnostic physical signs, except that it was apparently continuous with the liver, and occupied the position sometimes assigned to enlarged gall-bladder. On this date I saw the patient in consultation with Dr. Baxter, and although he thought the case suitable for aspiration, I failed to agree with him, but advised that the patient be urged to go to the Massachusetts General Hospital, with reference to exploratory incision, thinking that the evidence of malignant disease was stronger than that of any other disease.

From this date, January 2d, the tumor rapidly increased in size until January 14th, when patient had a chill. Previous to this time she had had two or three chills, but not very severe. From this time on for many days the pain was not very severe, and only required one-sixth grain morphine at night.

February 9th and 10th, the patient passed large quantities of pus in the urine, probably from one to two quarts. The tumor collapsed. The patient rapidly improved, and visits were soon discontinued.

February 27th, had a chill, with intense pain in right hypogastric region. The tumor had returned, and occupied all the upper portion of the right side of the abdomen, its lower border lying at least two or three inches below the level of the umbilicus.

After a few days the pus again found exit with the urine, and the patient had a rapid and uninterrupted recovery. At the present time (May) no tumor can be detected, and there is entire freedom from pain and tenderness.

CASE II. Mr. C., thirty-nine years of age; family history good; habits good; personal history good, excepting that for a number of years he had had at varying intervals severe paroxysmal painful attacks referable to right hypochondrium and epigastrium, without jaundice, but with the usual symptoms which lead to an opinion of biliary calculi.

During October and November of last year the attacks were more frequent and more severe, and there were evidences of constitutional disturbance in loss of flesh and strength; and early in December jaundice appeared, with epigastric distress and nausea and "bilious vomiting;" there were also temperature changes, never above 102° and never any chill. Treatment at various hands served but little good purpose; and conflicting opinions were advanced by the very considerable number of physicians who saw him. About the middle of December last year, an epigastric tumor was observed, and the pain grew more constant and required much morphia to control it. There was progressive emaciation; marked pallor of a sallow, waxy kind; and increasing evidence of local and constitutional disorder, but with subacute inflammatory disturbance, until two and one-half weeks before his death, when the temperature again rose.

I saw the patient April 3d, at Mansfield, in consultation with Dr. Perry, who kindly gave me the outline of the history, and a few days later the report of the autopsy.

I saw the patient in bed in a state of extreme exhaustion and emaciation: from one hundred and forty pounds he had fallen to seventy-five or eighty. He was of a sallow cachectic hue, and his whole appearance as from disease of malignant type; pulse 140 to 160 small and weak; temperature slightly above normal. No evidence of disease could be found in the thorax; but in the epigastrium and left hypochondrium and reaching down nearly to level of umbilicus, a tumor could be seen transmitting impulse of abdominal aorta, with outline and surface irregular and very tender in epigastrium, where there was decided fulness and indistinct fluctuation. Below this was a hard resisting mass. The opinion which prevailed at the time was that it was malignant disease of the omentum, probably sarcoma; although I felt that the epigastric prominence taken in connection with the temperature changes pointed to pus encysted there and so stated.

April 7th, four days later the patient died.

Autopsy showed an abscess in epigastrium and left hypochondrium, containing a pint and a half of pus and numberless small gall-stones. No sign of communication with the gall-bladder could be discovered, although it contained forty to fifty gall-stones. There were no adhesions, either duodenal, stomachic or hepatic. The left testis had suppurated and a large metastatic abscess was in left supra-clavicular region.

CASE III. Mr. P., fifty-one years of age. Father died of cancer. Mother's family tuberculous. Patient's habits and history good, with the exception of chills and fever in 1860. Never had any dysentery. Had headaches and bilious attacks from close of the war up to three or four months preceding March, 1886. During these months he had quite constant dull pain in epigastrium not induced and not affected by food. No nausea, no vomiting and no jaundice.

March 1, 1886. Severe epigastric pain, six hours duration, followed by an illness of seven months duration, in which there was great constitutional disturbance, as shown by loss of weight, strength and impairment of digestion, but without vomiting, nor was jaundice present. At one time there was partial recovery, but on the whole a steady downward progress. Early in the sickness an epigastric tumor showed itself and increased with considerable rapidity until at the end of four months it occupied the epigastrium and extended toward the left hypochondrium.

At this time, through the courtesy of Dr. Pratt, of Bridgewater, I saw the patient in consultation with him. The condition at this time was of extreme gravity. Emaciation was marked, prostration was pronounced, facial expression of great suffering, pinched and haggard. The whole condition was as of impending death from a purely malignant process. In the epigastrium and extending into the left hypochondrium and downward nearly to umbilicus a tumor could be made out with great distinctness, tender on pressure; quite firm and resisting.

An unfavorable prognosis was imperative. The long duration of the disorder, the family history, the age of the patient, the location, the condition and appearance of the patient prompted and seemed to war-

rant a diagnosis of malignant disease. But about the middle of August the patient had sudden nausea and vomited, partly on the floor and partly in a basin, about three pints of a brown limpid inodorous fluid, apparently pus and blood changed by admixture. The tumor collapsed, and never returned in that location; and marked and rapid improvement took place.

The following year after a severe attack of influenza, patient noticed a tumor about size of an orange in right hypochondrium and epigastrium, which increased in size until in December, 1887, he entered the Massachusetts General Hospital with a history of stomachic and intestinal indigestion, pain and distress in epigastrium, progressive weakness and loss of flesh.

At entrance a tumor was found in the epigastrium and right hypochondrium; firm, hard, even in surface, of quite uniform outline; reaching nearly to umbilicus and measuring five by seven inches in its larger diameter with intestinal resonance over same; splenic dulness measured four by five inches.

Advice was sought and consultations were held with the surgical as well as the medical staff; and many opinions were advanced as to the nature of the growth and its etiology, and means for removal. Laparotomy was advised; exploratory incisions were proposed; but a diminution in the size of the tumor while under observation in the hospital, had great influence in deciding to wait, and in September of the following year, during an attack of chills and fever, the tumor disappeared within twenty-four hours and has never recurred and the patient recovered full health.

Dr. Pratt, writing me under date of May 7th inst., reminds me that his opinion at the outset was, that the tumor was the result of obstruction due to gallstones, an opinion, I am sure, not upset by the results.

Dr. Mason then reported

THREE CASES OF SUB-DIAPHRAGMATIC ABSCESS.[1]

Dr. Bowditch stated that he had seen but one case in which there was communication between pus below the diaphragm and the lung. This was many years ago. He remarked that no one in the discussion of the present cases, had spoken of laparotomy, nor had that operation apparently been present in the minds of the previous speakers. Is not this an operation which can judiciously be done, in such a grave condition as that described as belonging to most of the cases here presented? and is it not done for much less serious conditions of disease, or for purely exploratory purposes? Why might this operation not find a very useful and perfectly legitimate field of application in cases of the obscure and threatening character of those here delineated?

Dr. Mason said that in his cases the abscesses were above and behind the liver, out of reach of an ordinary laparotomy. In two instances there was posterior drainage. The case of duodenal ulcer was very complicated, and the resulting abscess between the upper surface of the liver and the diaphragm, was not localized by exploration.

Dr. F. C. Shattuck said that, in the presence of such a profusion of cases of the most interesting character, it was difficult to know how to do justice to the subject under discussion. Several points, however, had struck him with great force in the examination of the patients who were exhibited, and in the narration of these most interesting cases. He would speak first of some of the conditions associated with the cases presented by Dr. Blake. Dr. Shattuck saw a case many years ago, in which an empyema of the chest was discharged through the lung without operative interference, and the patient recovered. There was no perceptible affection of the lung or of the general health remaining after the recovery of the immediate conditions resulting from the opening of the path from the cavity of the chest to the open air. He also mentioned a little girl in his wards in the Massachusetts General Hospital, who entered with a large effusion in the chest which the hypodermic needle showed to be purulent. A portion of the fluid was immediately evacuated by the aspirator, and at a period a few days later, another and a larger quantity was withdrawn, after which time there was decadence of the febrile action, an increase of the appetite, and an apparently perfect recovery to a state of health. Dr. Shattuck also mentioned a case recently seen in consultation. The patient had been severely sick with pneumonia. The heart was found outside the left nipple, the right side of the chest was filled with fluid, which had already begun to show tendency to point. Aspiration of the chest showed that the fluid was purulent, and a portion was removed at once. The advice was given that another portion of the fluid should be removed at another time within a day or two.

Dr. Shattuck asked Dr. Mason if the carbolized fluid which was thrown into the chest in the case presented before the Section, in which there were convulsions, was injected by means of *one* tube or by *two*.

Dr. Mason replied that only one tube was employed, but that there was ample room around the outside of the tube for the complete escape of the fluid, so that the chest was at no time distended nor in any way affected mechanically except by the actual contact of the liquid.

Dr. Shattuck also alluded to the cases presented by Dr. Whittier in which the appearances simulated those of malignant disease, and expressed the opinion that this suspicion would incline the consultant to avoid any operative interference. Dr. Shattuck said that he distinctly remembered a case at the Boston City Hospital in which the diagnosis of empyema had been made; and an operation for its removal was carried out, but to the surprise of the operators, the fluid proved to be the contents of a large hydatid cyst, with the presence of large numbers of daughter cysts.

Dr. George M. Garland was reminded of a case occurring in his practice, in which the patient, a man about fifty years of age, had gone through a pneumonia, and after three weeks had begun to convalesce, with an entire absence of fever, and all the signs of rapid recovery. Within two days, however, he had a sudden elevation of temperature to 103° F. and the pulse reached 100 in the minute. There was soon a marked apathy, the patient was drowsy, wanted to die, but made no complaint of pain or discomfort. The heart and lungs were normal. Four days later there was no resistance in the abdomen, and no pain on pressure nor any signs pointing to abdominal complications of any kind. It was, however, noticed that there was limited œdema in the right back, and not in the left. High up, under the ribs on the right side was pain on pressure, and there was an indistinct feeling of resistance to the fingers. Dr. Cabot was at once summoned by telegraph, and after an incision extending four inches from the surface of the back reached a point

[1] See page 449 of the Journal.

between the kidney and the peritoneum, from which more than a quart of offensive pus was drained off by a rubber tube. Within forty-eight hours the patient rallied from the shock of the operation, and soon the cavity began to gradually diminish in size, and the patient was on the road to convalescence. There was at times retention of pus, with exacerbation of the symptoms, but this was each time successfully relieved, and at length a continuous flow of a solution of boracic acid through the wound was maintained, until the patient fully recovered and resumed his accustomed occupation.

DR. F. I. KNIGHT said that cases of the kind reported on this occasion almost always do well in children, and that he has seen patients with this malady treated as out-patients in Philadelphia. In connection with the case reported by the chairman, Dr. Knight was reminded of many cases seen in conjunction with Dr. Cabot. In one of the cases operated upon, the patient died before the operation was begun, and died unquestionably from the ether. In regard to the subsequent injection of the cavity of the chest with fluid, he has seen many cases in which the signs of severe poisoning by carbolic acid were produced by the use of this fluid as an injection, even when used in dilute solution and in very small amount. Dr. Cabot is now opposed to even the use of the carbolized gauze, as a dressing after operations upon the side.

DR. HENRY I. BOWDITCH stated that he had only injected one case of this kind in all his experience. This patient had a permanent opening, and a continuous discharge, and was not doing well. One pint of simple warm water was injected, and allowed to flow out. It came away looking like pus; the injection was repeated until the water came away clear; and the patient immediately rallied, and made a perfect recovery. Dr. Bowditch is strongly opposed to injection of the chest with any fluid whatever after operation for relief of empyema, on account of the danger of accidents such as that reported by the chairman, or others of even more serious character, which have been known to occur in connection with this procedure.

DR. SHATTUCK stated that there seems no necessity to treat a collection of foul pus in the chest in any other way than we would treat a collection of perfectly sweet purulent effusion in the same location.

DR. J. O. WHITNEY, of Pawtucket, R. I., said: While, as a rule, I should not wash out the chest in empyema I can conceive of cases where it would be imperatively demanded. Great care must be taken lest a non-absorbent surface be converted into an absorbent one. If cleanliness be attained, I never fear bacteria.

DR. MASON said, in closing the discussion, that he could not agree with some of the speakers as to the impropriety of irrigating the pleura. It might be a choice of evils but this was the lesser as compared with the septic symptoms which sometimes continued. The indications were the same as those which required the removal of decomposing pus or sloughs from other localities, as the uterus or bladder. Convulsions sometimes followed the washing out of these organs also, and might even attend the passage of a catheter. Carbolic acid was probably not a good agent. Plain warm water or a solution of creolin had been useful.

DR. G. M. GARLAND read a paper on

EUPHRASIA OFFICINALIS.[2]

[2] See page 453 of the Journal.

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TUBERCULOSIS IN SLEEPING-CARS.

THE recently acquired knowledge of the tubercle bacillus and of the dangerous properties of the dried sputa of tuberculous subjects is causing a gradual revision of the views hitherto obtaining in regard to many of the adjuncts and accessories of our modern civilization. We referred last week to the rehabilitation of the spittoon by the bacillus, and it seems possible that the same microbe may, on the other hand, destroy the character of the much-vaunted American sleeping-car.

At a recent meeting of the Surgeons' Association of one of the great railroad systems, Dr. J. T. Whittaker, of Cincinnati, made some remarks,[1] by invitation, on "Tuberculosis in Sleeping-Cars," which are calculated to startle the travelling public, but which the physician cannot deny are not without considerable justification in the actual condition to which the travelling public — and in the United States that means the great majority of the well-to-do population — is constantly exposed.

It is startling to have to accept, but it is hard to dissent from, the following statements:

"It would be difficult to conceive of a conjunction of circumstances more directly contributive to disseminate this disease (tuberculosis) than is offered in the palace-car. It is always badly ventilated; the vestibule-car especially is close and hot, sixteen to thirty people being crowded into a space that might make a small hall in a house, but never a bed-room for a pair of human beings. Somebody is always hurt by a draught, so that windows are kept closed to prevent free ventilation, as well as the ejection of sputum, which is mostly deposited on the floors. Cuspidors never contain water, and are mostly used as waste baskets or slop-jars, and the temperature is raised to a degree sufficient to rapidly disseminate infectious matter.

"With the gathering shades of evening the compartments containing the bedding are opened into the car to diffuse through it a disagreeable, musty odor. The traveller is treated to the luxury visibly of clean

[1] Druggists' Circular, November, 1889.

sheets and pillow-cases, but the blankets, mattresses, carpets, and, worst of all, the curtains, remain the same until worn out.

"Consider now that every car contains or has recently been occupied by a consumptive traveller, if only *en route* for change of climate, and that through ignorance, carelessness, or weakness, there comes to be deposited upon bedding, curtains, etc., tuberculous matter. What becomes of it, if it be not dried and disseminated throughout the car, or gradually incorporated into the lungs of the traveller?"

The traveller on the express trains, Dr. Whittaker suggests, is in the condition of the dogs made to breathe, enclosed in boxes of atomized tuberculous matter, until even they, naturally immune, became infected with the disease. The danger to ocean voyagers is less, in that they are likely to be more in the fresh air which somewhat offsets the closer confinement in the still more restricted cabins and the ordinarily greater length of the voyage.

But the public having once enjoyed its comfort cannot be asked to forego the sleeping-car, any more than the public can be asked to give up eating beef and drinking milk lest tuberculosis enter the system and take up its abode. What means are there to ward off or mitigate its dangers short of banishing the sleeping-car altogether?

It is suggested, and we wish the suggestion might meet with a practical response, "that the plush, velvet and silk hangings must go. Seats should be covered with smooth leather, that may be washed off; carpets replaced by rugs, to be shaken in the open air at the end of every trip, or, better still, abolished for hard wood floors. The curtain abomination must give place to screens of wood or leather; blankets of invalid's beds, be subjected to steam at a high temperature; mattresses be covered with oiled silk or rubber cloth, that may be washed off; and, above all things, invalids be provided with separate compartments, shut off from the rest of the car with the same care taken to shut out the far less offensive or dangerous smoke of tobacco. The cuspidors, half filled with water, should abound (as they now abound) in every car, and consumptive travellers be provided with sputum cups, which may be emptied from the car. For it is not necessary to say here that the sole and only danger lies in the sputum. The destruction of the sputum abolishes the disease. When the patient himself learns that he protects himself in this way as much as others, protects himself from auto-infection, from the infection of sound parts of his own lungs, he will not protest against such measures."

In the mental exhilaration consequent upon existing discoveries in regard to the tubercle bacillus, it is not well that we should permit our still undeveloped knowledge to beget precocious fears and panics. It should not be forgotten that the soil, as well as the seed, is necessary for the crop; that the healthy system knows how to protect itself against even this formidable enemy. But this cry of warning should not go unheeded. How many tuberculous invalids travel to and from the South every winter and spring, and how many non-tuberculous, but enfeebled, people along with them. To point out that such are exposed on the fast through trains to especial dangers, dangers which can be diminished and should be minimized — this is not to be an alarmist.

ANOMALOUS FORMS OF SCARLATINA.

Scarlet fever sometimes presents itself in so mild a form as hardly to be recognized. The fever is slight, the sore throat insignificant or *nil*, the submaxillary engorgement is wanting, the exanthem almost imperceptible. The attending physician cannot but be puzzled, especially if there be no history of exposure to scarlet fever. The law of this Commonwealth requires physicians, under a penalty, to report their cases of scarlet fever to the local board of health, and houses, which are thus declared to be the seat of infection, are marked by a red card, and subjected more or less to a system of disinfection and isolation. This is all very proper, but what shall the physician do with his doubtful cases? It may sometimes be necessary to wait several days before a certain diagnosis can be made. If, however, the practitioner assume from the first that he has to do with nothing more serious than rötheln or symptomatic erythema, and makes no effort to disinfect the habitation or isolate the patient, he may imperil the rest of the family, and even a whole neighborhood, for the event may prove that the case was one of scarlatina.

If, on the other hand, he reports as scarlet fever what he subsequently finds to have been a benign affection, a febricula with symptomatic exanthem, he alarms a whole community and compels isolation of a family, a circumstance which, in the case of school children or adults working in factories, may be a serious hardship.

The rash may be wanting, but the mouth and throat may present the peculiar redness characteristic of the disease; there is considerable swelling of the tonsils, and the tongue is deep red, with swollen erect papillæ. Such cases — *scarlatina anginosa, scarlatina faucium, scarlatina sine eruptione* — occurring during epidemics of scarlet fever will not be likely to deceive the wary practitioner. When they appear sporadically, they often occasion considerable embarassment.

There is a fulminant variety where the patient is all at once overwhelmed by the poison, and succumbs from paralysis of the heart or brain. The fever is intense, but there is no skin or throat affection; the symptoms are meningitic; there is irregularity of respiration and early heart failure. Every practitioner has seen such cases in times of epidemic, and been puzzled by them. Sometimes a well defined rash presents itself in the last moments, or as the result of a warm bath.

Probably that type of scarlatina which offers the greatest difficulty in diagnosis is the nephritic. It is well known that scarlet fever is sometimes only recognized

by its renal manifestations; it appears from the onset as scarlatinous Bright's disease, and there is no throat affection or exanthem. The principal symptoms are those of uræmic poisoning. With high fever there is headache, delirium, restlessness, perhaps spasms, more or less irregularity of the respiration, and especially, obstinate vomiting. A very common determination of the poison is toward the alimentary canal, and the vomitus and dejecta contain catarrhal products which suggest to the practitioner that he has to do with only a severe attack of gastro-enteritis. The kidneys are likely to be overlooked, especially as in young children it is sometimes difficult to obtain a clear specimen of the urine. If the urine be examined, it will be found loaded with albumen and casts, and the percentage of urea will be low. The uriniferous tubules are sometimes so blocked with exudation that the urinary secretion is almost or quite suppressed. If anasarca be absent, the case will be still more obscure. It has sometimes been the fate of the physician to have a case of this sort at the commencement of an epidemic. If there be no history of exposure to contagion, the practitioner may well hesitate before he commits himself to a diagnosis of scarlet fever. Sooner or later all doubts are removed as the disease appears in unmistakable characters in other members of the family.

The above considerations sufficiently indicate the difficulties under which the general practitioner sometimes labors in reporting his cases. He will do his best to keep within the requirements of the law and protect the community from the invasion of a terror-inspiring and dangerous malady, but he will sometimes fail from lack of the data that would help him to a satisfactory diagnosis.

MEDICAL NOTES.

— One of the latest reports concerning the lines of business, in which English capitalists desire to invest their money, involves the purchase of a number of patent-medicine concerns in this country.

— The American Association for the Study and Cure of Inebriety give a dinner to its President, Dr. Joseph Parrish, in honor of the seventy-first anniversary of his birth, at his home, Burlington, N. J., on Tuesday, November 12, 1889, at mid-day. Several addresses are expected.

— The *Boston Post* says that there are 3,000 medical women in the United States, whose incomes range from $5,000 to $20,000 a year. The number is increasing every year, and the supply of "lady doctors" bids fair to be as great as that of the male physicians. Austria is the only civilized country in the world which prohibits women from entering the medical profession. Russia and China permit them, and the Queens of Italy and Roumania employ women physicians.

— The Board of Trustees of the Philadelphia Polyclinic and College for Graduates in Medicine have elected Richard J. Levis, M.D., Emeritus Professor of Surgery; Charles B. Nancrede, M.D., Emeritus Professor of General and Orthopædic Surgery; Charles H. Burnett, M.D., Emeritus Professor of Otology and J. Solis Cohen, M.D., Emeritus Professor of Laryngology.

An additional chair of Orthopedic Surgery was created, and Thomas G. Morton was elected professor. A new Department of Dentistry was created and the faculty was authorized to place a competent teacher in charge until the next meeting of the trustees. A new Department of Experimental Therapeutics and Physiology was created, and Thomas J. Mays, M.D., was elected professor. The chair of Clinical Surgery was filled by the election of Thomas S. K. Morton, M.D., professor. C. L. Bower, M.D., was elected Adjunct Professor of Clinical and Operative Surgery and J. Abbott Cantrell, M.D., Adjunct Professor of Diseases.

— The recent publication of the death by yellow fever of William Bruns and Joseph Fennell, passengers to this city on the steamer *Hondo* from Greytown, Nicaragua, have given rise to the impression that yellow fever prevails at that place, where many Americans are now engaged at work on the Nicaragua Canal. It is now said that there is no yellow fever at Greytown, and neither Bruns nor Fennell boarded the steamer there, the former having taken passage at Livingston, Honduras, and the latter at Kingston, Jamaica.

— Saccharin is reported to be a valuable antiseptic. A strength of 1 to 500, as an addition to mucilaginous and other solutions, prevents the formation of low organisms. Thus a valuable, inexpensive dentifrice may be prepared by simply dissolving saccharin in water, to the proportion of 6 per cent. A teaspoonful of this in a half-pint of water forms an admirable antiseptic mouth wash. In cases of malignant or other diseases of the stomach, requiring the washing out of that organ, a solution of saccharin of the strength of 2 per cent. will be found very suitable.

— A well-known physician relates the case of a person unequally myopic in his eyes, and very astigmatic in the left one. On account of the bad images given by this eye for near objects, he was compelled in childhood to mask it, and acquired the habit when writing of leaning his head on the left arm so as to blind it, or of resting the left temple and eye on the hand with the elbow on the table. After putting on spectacles, when fifteen years old, he lost the habit of leaning. His two children, while they have not inherited the defect, have received his acquired habit, and have to be watched to keep them from hiding the left eye when writing. A somewhat similar case of inheritance of acquired habit is related by J. Jenner Weir of a goat and its kids in the Zoölogical Gardens. A chain was attached to the animal's neck to keep him from jumping over the fence. He became accustomed to take the chain up by his horns and move it from one side to another over his back; in doing this he threw his head very much back, so as to place his horns in a line with his back. His offspring have inherited this habit, though it has not been necessary to put chains upon them. — *Popular Science Monthly.*

BOSTON AND NEW ENGLAND.

— Drs. McCullom and Durgin, of Boston, have visited the case of alleged small-pox in Chelsea, and pronounced it not small-pox.

— The annual meeting of the Free Hospital for Women was held at 22 Mt. Vernon Street, October 31. The report of Secretary N. V. Walker, for the year ending October 1, 1889, shows that 143 patients have been received during the year. Of these, 110 were either cured or relieved, 2 were unrelieved, 9 entered for diagnosis only, 11 were improper hospital cases, 7 left against advice and 4 died. In the out-patient department 312 new patients have been treated, with an aggregate of 2,961. The building fund has been increased $7,000, of which $2,500 was the gift of the late Sidney Bartlett. Nearly $5,000 has also been received for the hospital from the estate of Miss Annie L. Hastings, and valuable individual subscriptions and donations received. The report of Alfred Rodman, Treasurer, shows total expenses of $7,332.31, and total receipts of $8.000.34. The old officers were re-elected.

— Considerable excitement has been caused in the public mind by the recent cases of typhoid fever at Yale. The latest statement of the facts is as follows: Four Yale students have died of typhoid fever, Brainard, of Hartford, of the junior class, being the latest reported victim. The fever seem to be of a virulent type, for the report of death in Brainard's case, as in the case of Dr. McLane's son, came close upon the report of the illness.

Dr. C. A. Lindsley, Secretary of the Connecticut Board of Health, is quoted as believing that the cases did not originate in New Haven, but were only developed there. While there have been only eight cases of the disease, yet the mortality, fifty per cent., is certainly somewhat startling, and investigation as to the source and spread of the disease will be welcomed by anxious parents and friends and by the medical public.

NEW YORK.

— At the annual meeting of the Medical Society of the County of New York, held October 28, the following officers were elected for the ensuing year: *President*, Dr. Alexander S. Hunter; *Vice-President*, Dr. J. Leonard Corning; *Secretary*, Dr. Charles H. Avery; *Assistant Secretary*, Dr. Wm. E. Bullard; *Treasurer*, Dr. John S. Warren. Of the one hundred and sixty-four cases of illegal practice investigated by the Society during the past year, six resulted in conviction in General Sessions and twelve in Special Sessions; while in one instance the Society succeeded in getting the defendant sent to state prison for five years. The gross amount of the fines imposed was $1,500, and of this, the Society received $1,300.

— The Coroner's Jury, in the case of Feeks, the lineman who was recently killed by electricity, at the corner of Chambers and Centre Streets, has rendered a verdict to the effect that the man's death was caused by contact with a Western Union or Metropolitan telephone wire, which is believed to have been crossed by an electric light wire, probably one of the Brush Electric Light or the United States Illuminating Company. The verdict further finds that the system of overhead wires, as at present operated, is a constant menace to the lives and property of the citizens, and that electric wires, whether transmitting high or low tension currents, should be thoroughly insulated; that the linemen of the telegraph and telephone companies, as well as all electric light companies, should be imperatively required to wear rubber gloves and to use insulated instruments while working upon the lines. The use of the wire known as the underwriter's wire is condemned, and its immediate replacement with properly insulated wires is recommended. In view of this accident and of the existing danger from the overhead wires, the several recommendations are made.

— Judge Andrews, in Supreme Court Chambers, on October 29th, rendered his decision in the electric light cases, continuing the temporary injunction restraining the city from interfering with the wires of the electric light companies, pending the trial of the action for a permanent injunction.

Miscellany.

THE VENTILATION OF PUBLIC SCHOOLS.

From a letter to the *Daily Transcript*, written by Dr. Charles Harrington in reply to a previous communication signed "Architect" which criticised a recent editorial in this journal dealing with the ventilation of the public schools of Boston, we make the following extracts, which seem to us most timely and reasonable:

"Will 'Architect' assert that where ever changing conditions, such as differences in temperature, humidity, action of wind, etc., are exerting their influence in one way and another, the science of ventilation is an absolutely exact one? Would he be understood as saying that without mechanical contrivances there can be no ventilation. Will he assert that natural ventilation is a delusion? Because the Journal states that many of our schools are well ventilated without artificial aid, and that complicated apparatus may be so mismanaged as to give less valuable results, is 'Architect' justified in claiming that it favors natural as against mechanical means without reserve? . . .

"It is hardly necessary to cite authorities in support of the statement that natural ventilation is capable of good results, for actual experience is better, but has 'Architect' read the excellent paper by Dr. F. G. Pinkham on 'The Ventilation of School-rooms Heated by Stoves,' in the nineteenth report of the State Board of Health?

"Are school-houses which are furnished with mechanical appliances necessarily well ventilated? By no means. The Winchell School on Blossom Street, has both 'power' and bad ventilation. Let me not be understood as being opposed to artificial ventilation, which when properly arranged and well managed is capable of producing most perfect results. For my own part I very much desire to see it introduced in our schools wherever it is necessary and possible, but I

am by no means prepared to condemn a building solely because of its absence, nor to deny the value of well-regulated natural means.

"The *Journal* says, 'The matter of expense in the introduction of power is anything but simple,' and 'Architect' thereupon remarks, 'The opinion that expense is an effective obstacle to anything is very superficial.' Does 'Architect' not know that to indiscriminately introduce high-pressure boilers, engines and fans, and to pay for the running and the extra salaries, or to alter flues sufficiently for the proper extraction of air by heated shafts in all our schools, whether needed or not, would require so enormous an appropriation that the authorities who have the voting of grants would find some very effective obstacles in their way? Would their opinion that it would be difficult to appropriate so much money be looked upon as superficial? . . .

"As I shall show in a report about to be submitted on the sanitary condition of some of our public schools, there exists an evil, the effects of which on the air of the schools cannot be overcome by any system of ventilation whatever, and which must be considered quite as seriously as questions of altering flues or introducing power. That evil is overcrowding. Proper attention to this matter would go so far in improving the character of the air in many of our schools as to render any changes in the ventilation quite superfluous. What we need is more buildings for our large and increasing school population, and when they are erected, as they surely must be, let us hope that proper attention will be paid to the careful planning and management of the ventilation. If, in future additions to our number of school-houses, the authorities could secure the services of an unbiased and competent engineer, the public would have cause for congratulation, the institute would be but one of a number of perfectly ventilated schools, and the old buildings would at the same time gain some much-needed relief from overcrowding."

CLAIM FOR WRONG DIAGNOSIS OF SMALL-POX.

ALFRED HAND, of Philadelphia, has entered suit against the city for damages in the sum of $50,000, on account of small-pox contracted by his being confined in the small-pox hospital of that city a year ago. He had measles and was sent before the diagnosis was fully made to the pest-house, when he was placed in a ward with small-pox patients. The following day, August 5th, the disease declared itself as measles, and proved to be light. He was convalescent on the 11th, and on the 21st was attacked with hæmorrhagic small-pox, from which with its resultant paralysis he remained in the hospital till December 11th.

The statement of Dr. William M. Welch, the surgeon in-chief of the Municipal Hospital, as given to the press was as follows:

"Hand's case was one of those peculiar forms of measles which defy the practitioner to distinguish from small-pox. On August 8th the man was brought to the hospital on a doctor's certificate and an order from the Board of Health. It was nearly one and one-half hours after Hand had entered the ward when I saw him. I have treated over 5,000 cases of small-pox at the hospital, and even I, conversant with all the characteristics of the disease, was not sure that he had the measles. As he had spent two hours in the infected atmosphere he could not be safely moved, so taking all precautions I left him until the next day. In the morning the fact was demonstrated that he had the measles, and it was impossible to move him to any place where he might not extend the infection. Hand was vaccinated at least ten or twelve times, but in no instance did the virus take effect. In a few days he was cured of the measles, but being infected I could not discharge him. On August 21st he was stricken with the most virulent form of small-pox, and it was solely due to the attention he received that he survived. Everything he wanted was given him. He was placed in a room by himself, and an affection grew up between him and his attendant. As he grew better he developed partial paralysis, which slowly improved until he could sit up. At the time of his discharge both his father and himself were very profuse in their thanks for his treatment. The claim that he was neglected by the attendant is false. He could not be discharged for two weeks after admission until the disease had time to develop. In all my experience I have never had such a strange case. It may be that the paralysis was caused by some local or old-standing complaint accelerated by the attack of small-pox. The entire case was most unfortunate. When admitted he did not have the small-pox, but that is something I have to guard against always; cases of chicken-pox, measles and similar complaints being sent to me as small-pox."

THE JOHNS HOPKINS HOSPITAL BULLETIN.

THE trustees of the Johns Hopkins Hospital have authorized the issue of a monthly publication to be known as the Hospital Bulletin. It will contain announcements of courses of lectures, programmes of clinical and pathological study, details of hospital and dispensary practice, abstracts of papers read and other proceedings of the Medical Society of the Hospital, reports of lectures and all other matters of general interest in connection with the work of the Hospital.

In size of page and general make-up the Bulletin will resemble closely the Johns Hopkins University Circulars. In fact it will attempt to fill in the Hospital the same place which the Circulars fill in the University. Nine numbers will be issued annually. The first number will appear in November, 1889. The subscription price will be one dollar per year. Subscriptions may be sent to The Publication Agency of the Johns Hopkins University, Baltimore, Md.

OBITUARY. ISAAC E. TAYLOR, M.D.

DR. ISAAC E. TAYLOR, President of Bellevue Hospital Medical College from its organization by himself in 1861, and one of the most prominent of New York physicians, died suddenly of pericarditis on the 30th of October. Dr. Taylor was born in Philadelphia, of English parentage, April 25, 1812, and graduated from Rutgers College, New Brunswick, N. J., in 1832. He afterwards entered the office of his brother, Dr. Othniel H. Taylor, and in 1834 received the degree of M.D. from the University of Pennsylvania. Instead of commencing the practice of his profession, however, he spent four years in mercantile business with his father-in-law, Mr. Stuart Mollan, of New York. In 1839 he concluded to devote himself to medicine, and in order to render himself proficient in obstetrics

and diseases of women, to which his taste was especially inclined, he went to Paris in 1840, and pursued a course of study under the famous Cazeaux. The following year he returned to this country and settled in New York, and the first appointment which he received was that of physician for diseases of women at the Demilt Dispensary, a position that he retained for seven years.

In 1857 he was elected visiting physician to Bellevue Hospital, and at once set about inaugurating a series of improvements and reforms which greatly increased its usefulness. He also succeeded in uniting under one medical organization with Bellevue Hospital all the institutions on Blackwell's Island and the other East River Islands. Later on he established the medical college in connection with the hospital, and became its president, as well as its first professor of obstetrics and diseases of women and children. He remained on the visiting staff of the hospital until 1876, when he became one of the consulting physicians. Before this he had, at his own request, been made an emeritus professor, but he still continued to hold clinics at the hospital. He was also consulting physician to the Charity Maternity, and Women's Hospitals. He was a frequent and painstaking contributor to medical literature, and his elaborate studies on the cervix uteri in the last period of gestation and the first stages of labor especially, attracted the attention of obstetricians all over the world. He held office in all the numerous societies to which he belonged, and was one of the founders of the American Gynecological Society and the New York State Medical Association, — of the latter he was the first president chosen from New York City.

While Dr. Taylor never excelled specially as a teacher, as a practitioner he attained the highest eminence, and for many years he was held in the utmost esteem as a consultant in midwifery. He practised medicine nearly half a century, and retired a short time since full of honors and with an ample competence. He was noted for his kindly feeling and genial manners, and was as popular in society in general as he was among his professional associates. He leaves four children, — Col. Stuart Taylor of California, Mrs. Pierre Lorillard, Mrs. Hilliard Judge, and an unmarried daughter.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 26, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	612	196	16.32	13.40	5.12	3 24	4.32
Philadelphia	1,040,245	330	86	9 90	15.60	.90	3.60	4.20
Chicago	830,000	—	—	—	—	—	—	—
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	156	62	15.36	13.44	4.48	1.92	3.06
St. Louis	450,000	—	—	—	—	—	—	—
Boston	413,567	180	55	13.44	5.04	2.80	2.80	5.60
New Orleans	250,000	—	—	—	—	—	—	—
Cincinnati	225,000	108	—	22.08	8.28	4.60	4.60	9.20
Washington	225,000	94	25	22.26	14.84	2.12	3.18	13.78
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	23	11	26.10	4.35	13.05	4.35	4.35
Charleston	60,145	44	9	27.24	11.35	18.16	2.27	2.27
Portland	40,000	17	2	5.88	29 40	—	—	5.88
Worcester	78,292	19	2	10.52	15.78	—	5.26	—
Lowell	71,518	40	14	17.50	25.00	7.50	—	10.00
Cambridge	65,552	20	8	20.00	5.00	—	5.00	10.00
Fall River	62,647	15	12	33.33	—	6.66	6.66	6.66
Lynn	53,334	19	—	15 78	11.52	5.26	5.26	5.26
Springfield	40,731	10	7	40.00	10.00	—	—	40.00
Lawrence	40,619	32	7	34.43	18.78	—	3.13	31.30
New Bedford	37,253	13	5	23.07	11 38	7.69	7.69	7.69
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	15	6	33.33	—	—	—	26.66
Salem	29,011	9	4	22.22	11.11	—	-	11.11
Brockton	28,813	13	2	38.45	7.69	—	15.38	24.07
Chelsea	28,167	12	3	8.33	16.66	—	8.33	—
Haverhill	26,058	10	1	—	—	—	—	—
Taunton	25,170	—	—	—	—	—	—	—
Gloucester	24,263	4	1	—	25.00	—	—	—
Newton	21,553	5	3	20.00	20.00	20.00	—	—
Malden	19,774	9	5	33.33	11.11	11.11	—	11.11
Fitchburg	17,534	9	4	33.33	11.11	—	11.11	11.11
Waltham	17,332	10	3	10.00	40.00	—	—	10.00
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	3	1	—	—	—	—	—
Quincy	13,728	4	3	—	33.33	—	—	—

Deaths reported 1,875: under five years of age 542; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 319, consumption 248, acute lung diseases 206, diphtheria and croup 124, diarrhœal diseases 83, typhoid fever 55, whooping-cough 18, scarlet fever 11, malarial fevers 11, acute spinal meningitis 10, erysipelas 4, measles 3.

From whooping-cough, New York 11, Boston 2, Philadelphia, Baltimore, Charleston, Cambridge and Fall River 1 each. From scarlet fever, New York 5, Baltimore 2, Philadelphia, Fall River, Malden and Fitchburg 1 each. From malarial fevers, New York 6, Baltimore 2, Philadelphia, Nashville and Charleston 1 each. From cerebro-spinal meningitis, Cincinnati 4, New York, Philadelphia, Washington, Charleston, Worcester, and Somerville 1 each. From erysipelas, New York 4. From measles, New York 2, Salem 1.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,555,406, for the week ending October 12th, the death-rate was 17.5. Deaths reported 3,201: infants under one year of age 879; acute diseases of the respiratory organs (London) 264, diarrhœa 116, scarlet fever 65, diphtheria 55, fever 43, whooping-cough 41.

The death-rates ranged from 9.3 in Cardiff to 32.7 in Portsmouth: Birkenhead 17 8, Birmingham 16.2, Bradford 16.4, Hull 20.6, Leeds 24.8, Leicester 14.9, Liverpool 19.3, London 15.8, Manchester 24.2, Nottingham 14.3, Sheffield 18.3.

In Edinburgh 16.0, Glasgow 21.6, Dublin 23.2.

The meteorological record for the week ending Oct. 26, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending Saturday, Oct. 26, 1889.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.		8.00 P. M.	Daily Mean.	8.00 A. M.		8.00 P. M.	8.00 A. M.		8.00 P. M.	8.00 A. M.		8.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ..20	29.99	64.0	74.0	53.0	78		81	80.0	S.W.		N.W.	12		9	C.		O.		
Monday, ..21	30.20	42.0	45.0	38.0	64		76	70.0	N.E.		N.	14		12	T.		O.	0.40	.05
Tuesday, ..22	30.33	40.0	47.0	33.0	52		59	56.0	N.W.		S.E.	10		6	C.		C.		
Wednes. ..23	30.44	38 0	42.0	34.0	69		57	63.0	N.		N.E.	17		14	O.		C.		
Thursday, 24	30.38	38.0	43.0	32.0	70		66	68.0	N.		N.E.	15		16	O.		F.		
Friday, ...25	30.05	44.0	48.0	40.0	76		85	80.0	N.		N.E.	12		6	O.		O.		
Saturday, 26	30.07	49.0	57.	41.0	89		76	82.0	N.W.		S.W.	3		9	O.		O.		
Mean for Week.	30.21		51.0	39.0				71.0											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 26, 1889, TO NOVEMBER 1, 1889.

CABELL, JULIAN M., first lieutenant and assistant surgeon U. S. Army. Granted leave of absence for two months, to take effect about November 10, 1889. S. O. 249, Par. 7, A. G. O., October 25, 1889.

GIBSON, JOSEPH R., major and surgeon U. S. A. Granted leave of absence for seven days to take effect from date of being relieved from duty at Fort Sheridan, Ill. Par. 7, S. O. 249, A. G. O., October 25, 1889.

By direction of the Secretary of War, so much of Par. 10, S. O. 242, October 17, 1889, A. G. O., as directs Captain LOUIS M. MAUS, assistant surgeon, to report in person for duty at Fort Stanton, New Mexico, to relieve Captain MARCUS E. TAYLOR, assistant surgeon, is revoked, and Captain TAYLOR will proceed to Boise Barracks, Idaho Ty., as directed in said order, as soon as medical attendance shall be provided for Fort Stanton. Par. 10, S. O. 249, A. G. O., October 25, 1889.

MAUS, LOUIS M., captain and assistant surgeon U. S. A. Granted leave of absence for two months on surgeon's certificate of disability. Par. 11, S. O. 249, A. G. O., October 25, 1889.

By direction of the President, the Army Retiring Board convoked at Vancouver Barracks, W. T., by War Department order dated December 15, 1888, published in S. O., No. 292, December 15, 1888, from Headquarters of the Army, is dissolved. Par. 1, S. O. 250, A. G. O., Washington, October 26, 1889.

By direction or the Secretary of War, Captain WILLIAM C. GORGAS, assistant surgeon, is relieved from temporary field duty in the Department of the Missouri, and will join his proper station (Fort Barrancas, Fla). Par. 2, S. O. 251, A. G. O., October 28, 1889.

By direction of the Secretary of War, so much of Par. 2, S. O. 241, October 16, 1889, from this office, as relates to Lieutenant Colonel ANTHONY HEGER, surgeon, is amended to read as follows: "Lieutenant Colonel Anthony Heger, surgeon, is relieved from further duty in the Division of the Atlantic, and will at once report to the Major General Commanding the Army for duty in this city." Par. 5, S. O. 252, Headquarters of the Army, A. G. O., October 29, 1889.

By direction of the Secretary of War, Par. 3, S. O. 241, October 16, 1889, from this office, is so amended as to grant Major ROBERT M. O'REILLY, surgeon, leave of absence for six months, with permission to leave the United States, to take effect November 1, 1889. Par. 6, S. O. 252, A. G. O., Washington, D. C, October 29, 1889.

War Department, Washington, October 30, 1889. By direction of the President, Major WILLIAM H. FORWOOD, surgeon, is detailed as a member of the Army Retiring Board at St. Paul, Minn., convened by W. D. order, dated January 12, 1889, published in S. O No. 10, January 12, from Headquarters of the army, Vice Captain EDGAR A. MEARNS, assistant surgeon, is hereby relieved. Par. 12, S O. 254, A. G. O., October 31, 1889.

APPOINTMENTS.

First Lieutenant, CHARLES WILLCOX, assistant surgeon U. S. Army, to rank from October 29, 1889.

First Lieutenant HARLAN E. MCVAY, assistant surgeon U. S. Army, to rank from October 29, 1889.

First Lieutenant E. B. FRICK, assistant surgeon U. S. Army, to rank from October 29, 1889.

TAYLOR, MORSE K., major and surgeon U. S. Army, retired. Died October 20, 1889, at San Antonio, Texas.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING NOVEMBER 2, 1889.

NASH, F. S. past assistant surgeon, detached from duty in Bur. Med. and Surg., and to the "Petrel," November 14, 1889.

BOGERT, E. S., medical inspector, ordered to examination preliminary to promotion to medical director.

MORTON, O. D., assistant surgeons, J. W. KITE, and E. P. STONE, ordered to examination preliminary to promotion to passed assistant surgeon.

SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. — A Regular Meeting of the Society will be held at the Medical Library on Monday, November 11, at 8 o'clock, P. M. Reader: Dr. C. P. Strong, Subject, Cases illustrative of some of the more unusual forms of Bladder Diseases Among Women. Dr. O. K. Newell, will report a Case of Stone in the Bladder. Dr. J. J. Putnam, will show a New Apparatus for direct Transfusion.

F. B. HARRINGTON, M.D., *Secretary*.

THE AMERICAN ACADEMY OF MEDICINE. — The American Academy of Medicine will hold its Thirteenth Annual Meeting at Leland's Hotel, Chicago, Ill., on Wednesday and Thursday, November 13 and 14, 1889.

RICHARD J. DUNGLISON, M.D., *Secretary*.

NASHVILLE PRISON CONGRESS. — The Annual Congress of the National Prison Association of the United States, will convene in the Senate Chamber of the Capitol at Nashville, Tennessee, at 10 A. M, Saturday, November 16, and will continue its sessions until the evening of Wednesday, November 20.

THE MEDICAL AND CHIRURGICAL FACULTY, of Maryland, will hold its Semi-Annual Meeting in Hagerstown, Md., on November 12 and 13, 1889. Regular practitioners are cordially invited to be present.

BOOKS AND PAMPHLETS RECEIVED.

Listerism. By James B. Bell, M.D., Boston. Reprint. 1889.

Diphtheritic Paralysis. By Lewis H. Adler, Jr., M.D. Reprint. 1889.

Atropine in Enuresis. By Wm. Perry Watson, A.M., M.D. Reprint. 1889.

The "Perfected Evacuator." By Fessenden N. Otis, M.D. Reprint. New York: D. Appleton and Company. 1889.

Résumé of the Experience of Seventeen Years in the Operation of Dilating Urethrotomy. By Fessenden N. Otis, M.D. Reprint. 1889.

Air, its Uses and Abuses. How Perfect Ventilation Can be Secured under all Circumstances. New York: The Gouge Heating and Ventilating Company. 1889.

Prolapse of the Womb, with Especial Reference to the (So-called) Hypertropic Elongation of the Supra-Vaginal Portion of the Cervix, with Report of a Case. By Lewis H. Adler, Jr. Reprint. 1889.

Address Delivered at the Forty-Third Annual Meeting of the Association of Medical Superintendents of American Institutions for the Insane, Newport, R. I., June, 18, 1889. By John B. Chapin, M.D., President of the Association, Physician and Superintendent of the Pennsylvania Hospital for the Insane, Philadelphia.

Original Articles.

ON THE PRESENT METHODS OF DIAGNOSIS IN DISEASES OF THE STOMACH.[1]

BY GERTRUDE W. VAN PELT, M.D.

A LONG felt need for the means of making an accurate diagnosis of the diseases of the digestive organs is being daily more and more nearly met. The stomach, seemingly so accessible, has been until recently enveloped in mystery, and we have been obliged to discover its pathological conditions only by means of subjective symptoms and physical signs, often obscure, uncertain and contradictory. The same treatment could not be counted upon to relieve conditions, which to all appearances were the same; often grave diseases could only be suspected, while now they can generally be discovered early in their course. The study of the subject by books could not give great assistance, for the numerous symptoms given seemed to apply equally well to a variety of cases — headache, distress in the epigastrium, eructations, malaise, debility, constipation, etc., were certainly symptoms of indigestion but of what kind? Our old methods of palpation, percussion, etc., generally enabled us to determine the presence and degree of dilatation, but was it due to a partial paralysis of the muscles; to a hypersecretion of acid preventing the starchy digestion, or perhaps causing a spasmodic contraction of the pylorus; or to a lack of hydrochloric acid, causing a prolonged retention of the ingesta; to abnormal fermentation; to pure mechanical insufficiency; to chronic constipation, causing a pseudo-dilatation from the backing of gas; to a catarrhal condition; or to a much more serious one, atrophy of the glands? An accurate answer to these questions was rarely possible. Now, however, it is becoming so. Much remains yet to be done, and the study is probably in its infancy, but compared to the blind gropings of ten years ago we seem to have advanced. All this has been accomplished by a study of the contents of the stomach by means of the sound. The first analyses of the gastric juice were made by Leube in 1874, since which time numerous clinicians have developed the idea, more especially in Germany, but of late also in other countries. Some of the names prominent in this field are Ewald, Riegel, Jaworski, Von den Velden, Litten and Rosenheim. The only book on indigestion, written from the light of the science of to-day is Ewald's "Klinik der Ver dauungskrankheiten" a new edition of which has just been published. Literature in the form of pamphlets and articles to medical journals is abundant, but because it is so scattered and not always easy to obtain, it has occurred to me that a detailed account of the present methods of work in this direction might be of general interest. It will be my aim in the following article to give as fully and clearly as is possible in a short space, the technique of examination, and also so far as I can, references for those who wish to study the subject more carefully.

The examination should always begin with a study of the physical signs for dilatation, though there is not much that is new to be said under this head. Riegel gives the patient four to eight grammes of natrium carbonate in about half a glass of water, and immediately after one-half that quantity of acid. tartaricum, instructing him to prevent the gas escaping from nose or mouth. As a rule this succeeds admirably. I have seen by this method the stomach as clearly outlined as if it were removed from the body. But if the instructions are not obeyed, or the pylorus is too lax, or the abdominal walls too thick, the experiment may be a failure. The method of Dr. Obrastzow[2] of Kiew, which is ordinarily less accurate but more agreeable to the patient, consists in pressing the fingers perpendicularly over the gastric region with the patient in the recumbent position, thus bringing the anterior wall of the stomach in contact with the stomach fluid, and by sudden movements producing a splashing sound, noting the outlines of this sound-producing area, and then giving the patient one to two glasses of water, and repeating the same thing. Professor Dehio, of Dorpat, modifies this method slightly by giving glasses of water by degrees and examining the patient alternately standing and recumbent, both by percussion and by noting the splashing sound. Dulness, of course, increases as more water is taken. According to the observations of Dr. Obrastzow, the lower border of the stomach in both sexes is most generally to be found in the lower supra-umbilical third. In the men of the middle classes it lies somewhat higher than in the women. In the working classes it lies higher than in the upper classes. In children under fifteen years it is seldom as high as the umbilicus. After pregnancies it is lower.

The most important results, however, to the study of indigestion have been obtained by the chemical examination[3] of the gastric juices, for which the gastric contents have been removed by a stomach sound at various periods of digestion. Which of these various periods is the best is a matter that has been much disputed, and about which there are as yet many opinions. Leube[4] for years advised the introduction of the sound after exposing the empty stomach to a thermic or mechanical irritation, sufficient to cause the flow of gastric juice, but this exposes the results to numerous errors[5] and has been abandoned for the most part for the use of the sound after the more normal stimulus of food. Ewald gives in the morning a test-meal of one-third litre of water or tea without sugar or milk, with one or two white rolls and examines in one hour.[6] Gluzinski and Jaworski give egg albumen simply.[7] Perhaps more rational than any of these is Riegel's method of examination after a meal which resembles as nearly as possible an ordinary digestible one, supplying the stomach with the three kinds of food necessary to the system. This literally is a test-meal which the others can hardly be said to be. It consists of a bowl of soup, a piece of broiled beafsteak, bread, potatoes, and a small quantity of butter. No coffee or wine is permitted.[8] The sound is used five hours later or at about the end of digestion. Germain Sée, of Paris, gives about the same meal, but examines

[1] The publication of this paper, forwarded from Paris in July, has been unavoidably delayed. [ED.]

[2] Zur physikalischen Untersuchung des Magens und Darms. Deutsches Archiv. f. klin. Med., Bd. 43, 1888.

[3] Ueber Diagnostik und Therapie der Magenkrankheiten. Riegel Sammelung klin. Vortage, No. 289, 1886.
Deutsche Medicinische Wochenschrift. No. 24-26, 1887. (Boas.)
Münchener Med. Wochenschrift No 34, 1887.

[4] Beiträge zur Diagnostik der Magenkrankheiten. Deutsches Arch. f. klin. Med., Bd. 33, 1883.

[5] Beiträge zur Pathologie und Diagnostik der Magenkrankheiten. (Riegel) Deutsches Archiv. f. klin. Med., 1885.

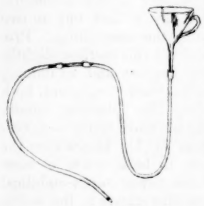
[6] Zur Diagnostik und Therapie der Magenkrankheiten. Berliner klin. Wochenschrift, No. 3, 1886.

[7] Methode für die klinische Prüfung und Diagnose der Störungen in der Verdauungs Function des Magens. Berl. klin. Wochenschrift, No. 3, 1884.

[8] Berliner Klin. Wochenschrift, XXV, 36, 1888.

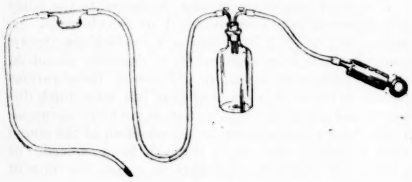
three-quarters to one hour after, on the ground that the hydrochloric acid is then at its height. If hydrochloric acid were the only substance to be sought, two or five hours later would be indifferently good, the per cent. being about the same for both periods, but by examining five hours after eating it is possible to obtain an idea of other important factors, and better to estimate the digestive capacity of the juices.[9] It is, of course, unnecessary to add that after any of these test-meals the patient is allowed to take nothing until the sound has been used.

The two forms of sounds, which with slight modifications are most generally in use, are represented in the two accompanying cuts. No. 1 is all sufficient for purposes of lavage, and by many is also used entirely for obtaining a specimen of gastric contents for diagnosis, which it is self evident must be undiluted. The patient is, however, for that, sometimes obliged to make violent efforts to express the fluid, which are often disagreeable and occasionally are unsuccessful.



No. 1.

No. 2 is attached to an aspirator at its free extremity, so that the fluid can be easily and quickly extracted. In



No. 2.

both cases the tube introduced into the stomach is of flexible rubber, of a circumference slightly over three centimetres. There are two oval openings near the extremity which is closed to facilitate introduction. The tube is dipped in luke-warm water and easily introduced into the œsophagus. The patient is instructed to swallow, and with slight pressure from without the tube quickly slips down. Sometimes the mere contact of the sound with the gastric walls causes such violent contractions that the contents are thrown forward with force, but generally if No. 1 sound is used efforts at expulsion and pressure over the epigastrium are needed, or the patient is instructed to cough, or the tube is gently pulled in and out a few centimetres, before the gastric contents will appear in the tube. If the aspirator is used, the sound can be withdrawn if desirable as soon as the little glass pocket, represented in cut No. 2, is filled, as only a few cubic centimetres are absolutely necessary for the analysis. It has been objected that the use of the aspirator is dangerous, and that it is possible with it to remove a piece of the mucous membrane. But if care is taken to aspirate gently, progressively and always incompletely, this unfortunate accident need not be feared.

[9] Beiträge zur Pathologie und Diagnostik der Magenkrankheiten (Riegel) Deutsches Archiv. f. klin. Med., Bd., xxxvi, und Zeitschrift f. klin. Med., Bd. xi.

The specimen obtained, it should be filtered and examined in regard to its hydrochloric acid, organic acids, mucus and pepsin. It is always interesting to study the solid residue with the microscope, though sometimes I have found it misleading if not done very thoroughly; for example, in a specimen rich in hydrochloric acid, I have found large bundles of striped muscle fibre, to be explained, of course, by the relatively small amount examined. The best results here will probably be in the study of bacteria, etc., but as this subject has been but imperfectly worked up, I will not attempt to discuss it. Probably the most important part of the examination is the analysis for hydrochloric acid, for which there are several tests.[10] The various chemicals used are the following:

(*a*) Congo Paper[11] which is turned blue in the presence of free hydrochloric acid. It has been much and justly criticised [12] as an unworthy test, responding also to lactic acid. It is true that the same faint blue color is produced when lactic acid is present in the strength of 1 to 1,000 as when free hydrochloric acid is present in the strength of $\frac{1}{4}$ to $\frac{1}{2}$ for 1,000, so that a faint blue color proves nothing. When, however, it turns a deep blue color, we have a certain proof that sufficient HCl is present for the purpose of digestion, since lactic acid is not found in large enough quantities to give the deep color. The test is useful, because it can be used so quickly, even before the specimen is filtered and because it is often useful, in office practice, to be able to know immediately whether hydrochloric acid is in abundance.

(*b*) Tropaolin,[13] which is an aniline dye. The solution is made by dissolving the powder in distilled water, until the liquid has a bright orange color, then heating and filtering. This color in the presence of free hydrochloric acid is turned to a deep red verging to brown. It responds to $\frac{1}{4}$ for 1,000 of HCl, and is the only one of the aniline dyes which is absolutely uninfluenced by the presence of free organic acids.

(*c*) Methyl violet, also an aniline dye, is made into solution the same as tropaolin, sufficiently strong to produce a deep dark violet color. The addition of free hydrochloric acid changes this to blue.

(*d*) Carbolic acid 2% with a few drops of ferri sesqui chlorate to half a test-tube becomes steel blue, (this should always be added just before using). In the presence of free HCl, the liquid becomes immediately decolorized or is tinged with a dull leaden gray. If, however, it turns yellow, it is an evidence of the presence of lactic acid for which it forms one of the best tests. In fact, it is so much more sensitive to the latter that it should be reserved for it.

(*e*) Resorcin, 5 grms., sugar 3 grms., spirit. dilutum ad 100 c.c., is recommended by Boas.[14] But the certain and at the same time most delicate test that we have at present, is —

(*f*) The Phloroglucin-vanillen [15] test of Gunzburg. It is in the proportion of vanillen 1, phloroglucin 2,

[10] Ueber Vorkommen und Mangel der freien Salzaüsre in Magensaft bei Gastrektasie (Von den Velden) Deutsches Archiv. klin. Med., 1879. Ibid, 1880.
Die Säuren des gesunden und kranken Magens (Cohn und Von Mering) Deutsch. Arch. f. klin. Med., 1886.

[11] Ein neues Reageus auf freie Säuren.
Münchener Medicinische Wochenschrift), No. 6, 1886.

[12] Die moderne Magendiagnostik. (Dr. Frh. v. Sohlern) Petersbg. Med. Wochenschrift, xiii, 51, 52, 1888.
Dr. Shäffer. Centralblatt f. klin. Med. 1x, 46, 1888.

[13] Münchener Med. Wochenschrift, No. 5, 6, 1888. (F. Haas.)

[14] Centralblatt f. klin. Med. No. 40, 1888.

[15] Ueber den Werth der Farbstoffreaktionen auf freie Salzsäure im Mageninhalt. Dr. Shäffer. Zeitschrift. f. klin. Med., xv, 1888.
Centralblatt f. klin. Med., No. 40, 1888.

absolute alcohol 30.[16] One drop of the solution with a drop or so of gastric juice in a porcelain dish is slowly dissolved over an alcohol lamp. If free HCl be present even to the amount of $\frac{1}{20}$ for 1,000, the bottom of the porcelain dish becomes colored a bright rose. This forms also a most excellent and reliable quantitative test for HCl[17] which in health at the height of digestion should be from .15% to .2%. For this purpose the juice must be diluted gradually until it no longer colors the solution a bright rose, but on the contrary leaves a yellowish sediment on heating. The last dilution which produces the bright rose color corresponds to a solution of $\frac{1}{20}$ for 1,000 of hydrochloric acid. If, then, the number of dilutions be multiplied by $\frac{1}{20}$, the results will give the strength of the undiluted juice, for example, if diluted twenty times the juice contains .1% HCl.

When no lactic acid is present, we have a cheaper and somewhat simpler test by the well-known trituration method. The normal solution of natrium hydrate (NaHO) is used, of which 1c.c. will neutralize .365 grms. of HCl. The solution is diluted one tenth to make the test more delicate. Litmus tincture is the indicator of the neutralization of the acid. If then, for example, at the moment it ceases to respond, 9.8 c.c. of natrium hydrate solution have been used, there is .3577% of acid present. But as this test responds also to other acids it is, of course, only useful for obtaining the per cent. of hydrochloric acid in their absence. Another quantitative test, not however so much used, is the "vert brillant."[18] The best test for lactic acid is Uffelman's or the iron and carbolic acid test mentioned above. Lactic acid will color it yellow in the strength of $\frac{1}{3}$ for 1,000. If the presence of HCl interferes with this test — which it rarely does — Haas recommends diluting the juice. It is not of practical value to apply the complicated tests for acetic or butyric acids, as they make themselves known to the sense of smell when present.

Examination for Pepsin. By chemical tests this is difficult and tedious. The same purpose can be served by the simple process of testing the digestive capacity of the juice in an oven kept at the body temperature. Or in place of such an oven, which is expensive, a water-bath with an arrangement for keeping the temperature uniform, serves the purpose equally well. If hard white of egg of 8 mm. diameter and 1 mm. thickness be put in a test-tube somewhat over one-half filled with normal gastric juice, which has been removed five hours after Riegel's test-meal, it should be digested in an oven in from thirty to sixty minutes. If, therefore, a specimen containing .15% to .2% of hydrochloric acid should require longer than one hour to digest the albumen, we would infer that it was deficient in pepsin, and if it failed to digest at all we would conclude that pepsin was lacking. Should the specimen under consideration have a low per cent. of hydrochloric acid that must of course be raised to about .2% in order to judge of the quantity of pepsin. It is often interesting to prepare several fluids for artificial digestion, as may be suggested by the particular case, one as it is extracted from the stomach, always for comparison, and others with hydrochloric acid or pepsin or both added, noting the time of the disappearance of the albumen in each case.

[16] Ein neues Reagens fur den Nachweiss freier Salzsäure im Mageninhalt. Centralblatt f. klin. Med., No. 45, 1888.
[17] Centralblatt f. klin. Med. No. 40, 1888.
[18] Hyperchlorhydrie et Atonie de l'estomac, par Germain Sée.

The secretion of rennet[19] has been studied, but so little has been verified that I will only mention it so far as to say that its presence is sought in the same way as pepsin, except that milk is used instead of egg albumen. Under normal circumstances of course the casein is soon precipitated. The ordinary test of sodium chloride and acetic acid is used to discover mucin.

Besides being chemically disturbed, the stomach may be abnormal in regard to its mechanical or absorbing functions. Much has been written lately about the value of salol in studying the motor activity of the stomach. It is composed of phenic and salicylic acids, and is insoluble in an acid medium but soluble in an alkaline. The theory is that as it cannot, therefore, be broken up in the stomach, an estimate of the muscular activity can be formed upon an observation of the time elapsing between the taking of salol and the appearance of salicylic acid in the urine. This should be from thirty to sixty minutes. The method was first recommended by Ewald[20] and has since been used by many with different opinions as to its usefulness. Dr. Bourget,[21] of Geneva, has experimented considerably with this drug recently, and his results are very interesting. He found that in normal stomachs he could vary at will the time between the ingestion of salol and the excretion of salicylic acid by simply changing the diet to one which was more or less stimulating to the gastric juice. If this is true in normal stomachs, the inaccuracy would of course be much more marked in disease where there are such varying amounts of acidity in the stomach. Klemperer later recommended oil as a means of judging of the motor efficiency.[22] He gives the patient 105 grms. of oil and in two hours washes out the stomach. Normally about 70 to 80 grms. should be found at that time. As only 1% to 2% of the oil is decomposed, forming fatty acids, and as none is absorbed from the stomach, its motor activity can be the sole cause of the disappearance of the oil. But nothing better than Leube's method has as yet been proposed; namely, that of washing out the stomach *seven* hours after a test-meal. Riegel[23] has slightly modified and carefully applied this by washing the stomach *five* hours after *his* test-meal, which was described above. If he finds it empty, he knows at least that the motor activity is not at fault. If he finds a small quantity of food, he considers it not seriously affected and uses the substance obtained for the further necessary examination. A stomach which is not empty seven hours after eating an ordinary meal, shows only a high grade of motor disturbance. Although there is nothing mathmetically exact in this method, it is sufficiently so for all practical purposes, and, after some experience, one is able from the quality and appearance of the undigested mass to form a fairly accurate idea of the motor deficiency.

The examination of the absorptive function of the stomach is not very satisfactory. It consists in giving two grammes of potassium iodide in a gelatine capsule and examining the saliva from minute to minute for the appearance of iodine. In health it should be found in from six-and-one-half to eleven minutes if taken on

[19] Untersuchungen über das Labferment und Labzymogen im gesunden und Kranker Magen. Boas. Studien über das Vorkommen des Labfermentes im Magen des Menschen unter pathologischen Verhältnissen. Johnson. Die diagnostische Verwerthbarkeit des Labfermentes Klemperer. Zeitschrift f. klin. Med., Bd. 14.
Ueber die Labferment. Carl Rosenthal. Berliner medicinische Wochenschrift, xxv, 1888.
[20] Therapeutische Monatshefte, No. 8, 1888.
[21] Revue Médicale de la Suisse, Rom viii, December 20, 1888.
[22] Deutsche Medicinische Wochenschrift, No. 47, 1888.
[23] Ibid.

an empty stomach, or, if taken immediately after a meal, in from twenty to thirty-seven minutes.

This concludes a brief description of the ordinary technique of examination which is used at present, though variations and additions will constantly suggest themselves in the study of individual cases.

A CASE OF OVARIOTOMY COMPLICATED BY PREGNANCY.[1]

BY MAURICE H. RICHARDSON, M.D.,
Surgeon to the Massachusetts General Hospital.

IN the diagnosis of abdominal tumors in women of child-bearing age, the possibility of the existence of a gravid uterus should never be forgotten. It has happened sooner or later in the experience of the most expert operators and experienced diagnosticians that a pregnant uterus has been opened by mistake. In some cases it is extremely difficult to exclude pregnancy, especially when the abdominal tumor is of moderate size. In many the history and surroundings have been such that the idea of gestation has not been prominent enough to receive serious consideration. It is well to bear in mind that a pregnancy may exist without any of the ordinary signs beyond enlargement of the abdomen. The tumor itself may resemble a cyst so closely as to deceive the most expert fingers. When, in addition to a negative history and a physical examination strongly suggestive of a cyst, is added the fact that fœtal heart-sounds cannot be heard, it is not strange that mistakes have been and will continue to be made.

The difficulty of exactness in diagnosis is not over when the abdomen has been opened. It is clearly impossible to get an extensive examination of a large tumor through the small median incision usually made. One must judge by the color, consistence, fluctuation and other physical appearances, as determined by an inspection and palpation of a small portion of the tumor. In a case of hysterectomy reported some years ago [2] it was impossible for me to say whether the tumor contained fluid or not till the introduction of the trocar. In a solid tumor this method of diagnosis presents no serious objections; but if the case is one of pregnancy, the dangers are obvious.

In the following case these questions arose, and gave rise to a good deal of embarrassment, not unattended by danger to the patient, which were happily averted. It is quite probable that there would have been no difficulty in diagnosis had the patient been able to speak English.

Annie K., age thirty, a Pole. Entered the Massachusetts General Hospital July 6, 1889. Speaks little or no English. Married eleven years. Seven children; youngest child sixteen months. Family history negative. She stated that two years ago she noticed a tumor in the right hypochondrium, which has increased steadily ever since. Has had much pain, which has increased and been worse the last few months. Catamenia regular, and not excessive, except that for four months before her last child was born she flowed. Catamenia now due in about a week. Patient well-developed and nourished. In the right upper quadrant of the abdomen there is a mass the size of a child's head, which is elastic and distinctly fluctuating. Dull over tumor, but tympanitic between it and the border of the liver. Tympanitic also to the right of the mass and between it and the pubes. The tumor extends beyond the median line. In the left inferior quadrant there is another and similar mass, with a resonant sulcus between the two. Umbilicus not prominent. Lower mass fluctuating, and both freely movable, Resonance not materially altered by change of position. At a vaginal examination made at a consultation of the staff the cervix was found drawn back, fundus forward. The mass in the left was thought to rise from the pelvis, and seemed to be independent of the uterus.

July 9th. By incision in the linea alba, below the umbilicus, the lower tumor was exposed. It was found to have a smooth reddish surface, such as is found in ovarian cysts recently inflamed, there was distinct fluctuation; though it had a rather doughy feel. It did not look like the usual ovarian cyst and from this fact it attracted particular attention. Having determined, however, that it was probably a cyst, of the left ovary, as was thought by several of those who had previously examined it, I tried to introduce the large trocar, for the purpose of evacuating it. The point entered the mass with great difficulty, so that I withdrew it. There was a spurt of blood from the puncture which was very severe. This was controlled temporarily by the superficial application of a clamp. On enlarging the wound enough to make a thorough examination by drawing out the whole tumor I found it to be a symmetrical enlargement of the uterus. Even then I did not think of a pregnancy, for beyond its symmetry there was nothing to suggest it. The question was raised, however, and I replaced the uterus temporarily, meanwhile removing an ovarian cyst of the right ovary, which was filled with a thick gelatinous gray-colored fluid, and had a very long pedicle. The removal of this tumor gave us a better chance to examine the other. It was impossible to make out definitely what the enlargement of the uterus meant at this time. It was thought best, however, not to remove it. The puncture was sewed up with two catgut sutures and the whole replaced.

The temperature never reached 99° after the operation, and she was discharged well in three weeks, though suffering from an attack of diarrhœa at the time she was taken home. There was never any evidence of pregnancy, and nothing resulted from the necessarily rough manipulations of the uterus during the operations. When she was made to understand the question, she said that she expected another baby in about four months.

In reviewing this case it is difficult to see how the mistake could have been avoided, basing our opinion upon all the facts obtained. There would have been no doubt had she been able to express herself. The absence of the usual signs of pregnancy, with the physical examination made at the time of the consultation, and the displacements of the parts by the complicating tumor, made the diagnosis very uncertain. It is, nevertheless, quite remarkable that no mention should have been made of a possible pregnancy before the operation, and quite as much so that there should have been so much trouble in making out the cause of the uterine enlargement at the time the tumor was exposed.

NOTE. — November 10th. I have just learned that this patient has been under observation at the Out-Patient Department of the Lying-In-Hospital, and that she was, at last accounts, very near the completion of her term, and that everything was going on well.

[1] Read before the Boston Society for Medical Improvement, October 14, 1889.

[2] See Boston Med. and Surg. Journal, September 8, 1887.

REPORT ON PROGRESS IN THERAPEUTICS.

BY FRANCIS H. WILLIAMS, M.D.

MILK SUGAR AS A DIURETIC.[1]

Professor Sée has recently presented the result of his study of the diuretic action of milk sugar, which he considers the most reliable of all diuretics. In diseases of the heart and stomach, and also in renal or cardiac affections accompanied by dropsy, its diuretic qualities render it very servicable. Milk in these cases, as is well known, is of great value, not only on account of its diuretic properties, but also because it is so complete a food. Three or four quarts of milk a day may be used with advantage, but the proportion of sugar in milk is rather too small. Professor Sée has discovered, by experimenting successively with different constituents of milk, that lactose is the active agent. The action of the other constituents of the milk, such as the water and the salts, is inconsiderable, the chloride of sodium adds nothing, and the salts of potassium very little, to the polyuria induced by the sugar of milk.

This sugar is found in all kinds of milk, is crystalline, and quite soluble in water. About three ounces of it dissolved in two quarts of water, with complete suppression of every other liquid, as soup, tea, wine, mineral water, etc., will afford marked diuresis in all cardiac troubles, no matter what the lesion may be, though the results are less constant in arterio-sclerosis.

In twenty-five cases abundant diuresis resulted, at least eighty ounces of urine were passed, usually one hundred or more, in the twenty-four or forty eight hours subsequent to beginning the treatment. As soon as the treatment was stopped the amount of urine fell off to what it had been before the administration of the diuretic. Professor Sée, therefore, considers lactose to be, not only the most efficient diuretic, but also the least harmful. If milk is used, and two quarts only are taken, diuresis follows; if four quarts of milk, containing six and one-half ounces of sugar of milk, marked glycosuria is produced; at the same time there is considerable excretion of urea, indicating a destruction of the albuminates. With the sugar alone these disadvantages may be avoided, for three and a quarter ounces of milk sugar in water will set up a copious diuresis, such as we cannot be sure of having from even four or five quarts of milk.

The polyuria resulting from this treatment surpasses that from all other methods; the amount of urine rises rapidly to two, two and one-half, usually to three or three and one-half quarts, and even to four or four and one-half quarts on the third day. After this it remains at that point, or drops to two and one-half quarts for some days. After a few days the same treatment may be employed to repeat the diuresis.

It is fair to say that this action of the lactose may be relied upon in cases of cardiac dropsy, but in those of renal origin its effects are slight. In cardiac disease it never fails unless the kidneys are diseased, and the amount of albumin is considerable. When the amount of albumin is small, the result is favorable, from which it may perhaps be inferred that there is at present only a simple venous congestion. It is suggested that the diuresis may serve as an indication of the condition of the kidneys. Various conditions may affect the diuresis; sometimes diarrhœa occurs, and this diminishes the amount of urine, or the patient may have been subject to profuse sweating, which would also lessen the quantity of the urine.

As a rule the remedy is well borne. It may be prescribed for eight or ten days and then omitted for a few days and again renewed. If the simple solution is not well tolerated, brandy or peppermint may be added to it. All other liquids should be reduced in amount or omitted while this treatment is pursued. This method presents great advantages over many others, and the patient may partake of any food; a meat diet, if the physician so desire. Professor Sée considers that the physiological action of lactose is upon the kidneys, since it does not exert any influence upon the circulation. He classes it with caffeine, as he believes that caffeine acts upon the kidneys only, and not through the circulation, as do digitalis and strophanthus.

Lactose is regarded as superior to caffeine, as it does not effect the brain and nervous system.

[1] L'Union Médicale, June 15, 1889. American Journal Medical Sciences, October, 1889.

CODEINE AND MORPHINE IN DIABETES.

Dr. Mitchell Bruce has compared the effects of these alkaloids in two classical cases of diabetes.[2] The observations extended over several months and were made with great care. The sugar in the urine was first reduced to a minimum by a strictly anti-diabetic diet, and then one of the drugs was administered to both patients, and its effects on the sugar were noted. Phosphate of codeine was given subcutaneously, and the dose was gradually increased to more than twenty grains a day. After an interval on strict diet, acetate of morphine was given to both patients, up to as high as five or six grains per diem; of the two drugs, the morphine proved to be more efficacious, as under it the sugar was more completely controlled. Codeine is much more expensive than morphine, and large doses of it are necessary. Narcotic effects from morphine seldom presented themselves so long as the sugar continued to fall.

Dr. Bruce found some difficulty in removing the last traces of sugar, and he suggests that in practice we should be satisfied with reducing the sugar to a small amount, rather than use the large doses required to free the urine from it completely.

CODEINE TO RELIEVE ABDOMINAL PAIN.

The fact that many practitioners still prefer opium to morphine in the treatment of abdominal pain, led Lauder Brunton[3] to question whether some other alkaloid than morphine was not more powerful in cases of this sort. Barbier, in 1834, found that codeine had an especial action in lessening pain from irritation of the solar plexus, while it did not disorder digestion, and rather aids the action of the bowels. Brunton concluded from these and other experiments that codeine is likely to be of value in relieving abdominal pain, and has employed it with success especially in painful affections of the intestine and lower part of the abdomen. It is particularly valuable where morphine is to be avoided on account of the condition of the heart or lungs, or where it is desired not to interfere with the action of the bowels, on the other hand, where there is much diarrhœa it is not so serviceable as morphine or opium, because it does not lessen peristaltic movement. The dose employed is half a grain in pill.

[2] Practitioner, July, 1888.
[3] British Medical Journal, 1888.

CAFFEINE SUBCUTANEOUSLY AS A CARDIAC TONIC.

Henchard[4] gives the preference to caffeine over any cardiac stimulant for the relief of heart weakness dependent on any peripheral condition as, for example, pneumonia. Its action is rapid, its elimination quick and it is harmless. Digitalis is too slow. Caffeine acts as a tonic, as a cardiac tonic, and as a diuretic.

NITRO-GLYCERINE, ESPECIALLY IN CASES OF EMERGENCY.[5]

Dr. Joseph B. Burroughs has recently called the attention of the profession to the effects of this drug, the rapidity of its action, and the lack of taste when taken in water. It is least liable to change, and is the handiest to use in the form of a one per cent. solution — one drop is a dose of a one per cent. solution; this may be taken in water, the physician dropping ten drops into a tumbler and adding ten teaspoonfuls of water; one teaspoonful now representing one drop of the remedy. If there is need of great haste, or if the patient cannot swallow, from being unconscious, one drop can be placed within the lower lip or upon the tongue; the drug may be given subcutaneously, but so rapid is its absorption through the mucous membrane of the mouth, that unless the syringe should happen to be filled it is doubtful if time would be gained.

Patients differ in the amount required to produce an effect; some requiring less than one drop, others requiring three or four drops to produce the same effect; the usual dose, however, is one drop.

Patients also differ in the duration of the effect of the drug; usually the effect lasts three or four hours, but in a few cases the effect has ceased in twenty or thirty minutes.

When given by the stomach the effect is apparent in a few minutes, the pulse being increased from ten to twenty beats, and becoming full and regular. In a few cases there is slight headache, lasting for a few minutes. In larger doses the face becomes flushed, a severe headache is experienced, accompanied with a feeling of fulness, singing in the ears, flashes before the eyes, and all the symptoms of an increased supply of blood to the brain. On account of this effect on the cerebral circulation, care should be taken in administering the remedy to the aged, as the sudden expansion of the cerebral vessels might cause a rupture of their weakened calcareous walls.

Cases are reported of its use in angina pectoris, faintness during a minor surgical operation, rapid prostration in typhoid fever, in opium poisoning, in uræmic coma, in nephritis.

SULPHONAL.

Dr. Kast, the discoverer of sulphonal, gives some experimental conclusions about the retarded activity of sulphonal.[6] Many have found its primary hypnotic action postponed too long, that is, two or three hours or more, and that the effect lasts even into the succeeding day. Two qualities distinguish sulphonal: first, its insolubility; second, its resistance to chemical change. It is easily soluble in concentrated mineral water. It should be given in the early evening hours in a good quantity of warm water; but with the supper. In this way advantage is taken of those conditions favoring rapid solution, namely, a fairly large quantity of water with a good proportion of hydrochloric acid, and salts of peptones in rich abundance.

Dr. William H. Flint, gave sulphonal in thirty-three cases with a result of six hours sleep in 82% of the trials. The general conclusion which may be drawn from his observations is, that sulphonal, even in single doses of twenty to thirty grains, is a safe, and, in the main, reliable hypnotic, free from unpleasant commitant effects. He noticed moderate somnolence on the morning following the administration of the remedy.

Sulphonal is of exceptional value in insomnia occasioned by debility, neurasthenia and mental perturbation, and it has no appreciable anodyne properties.

The experience with sulphonal at the Richmond Asylum, Dublin, under Mr. Norman, was favorable. The advantages of sulphonal are: that it has no odor, is almost tasteless and produces no gastric derangement and no troublesome head symptoms. Its disadvantages are its bulk and insolubility; its action is slow. Dr. Bornemann[7] gives an account of a case of poisoning by sulphonal. The patient was a physician, fifty-three years old, a victim to the opium habit. On one occasion sixty grains were given shortly after nine o'clock in the evening, and thirty grains more an hour after midnight. Sleep did not follow promptly, but the patient showed symptoms of muscular incoördination of a decided character. It took six days for the ataxia to subside, and during a portion of that time there was great mental depression. The agreement among observers as to the unqualified merit of sulphonal is remarkable, Oesterreicher finds it somewhat slower in action than the other hypnotics, and advises its administration several hour before bed-time. It seems to be especially useful in nervous diseases.

Schwalbe's account is very complete and his trials were carefully conducted; out of fifty patients, in 66% a prompt and satisfactory action was obtained; in 24% the result was relatively poor, and in 10% negative. The patients had various diseases, but analysis shows the important fact that in twenty-four cases of purely nervous insomnia success was complete in 90.3%. On the contrary, when the primary affection determined the sleeplessness, the test was satisfactory in only 44% of the cases. Schwalbe concludes from this that sulphonal is purely a hypnotic and not a narcotic; that it has power to quiet the excited brain and restore the equilibrium, if disturbed by a minor influence only. Unlike morphine, it does not first diminish pain before sleep, nor in cases of cough did it diminish the tendency thereto during sleep.[8]

It is of importance that the profession should be informed as early as may be of the drawbacks which attend the use of any new and powerful drug, and no better discussion is to be found than that of Dr. J. P. Crozer Griffith. He considers sulphonal a valuable agent, but not without the power of producing undesirable and quite unpleasant secondary effects. First to be noted among the disadvantages of sulphonal is its slow action. This is to be carefully borne in mind in determining the hour of its administration; and the patient should perhaps be notified of its peculiarity, or disappointment may follow. Another peculiarity of sulphonal is the marked tendency which its hypnotic action has to persist during the succeeding day. To overcome this difficulty one can do nothing more than give the remedy early in the evening, at seven

[4] Le Bull Méd., 1888, p. 705.
[5] Lancet, June 22 and 29, 1889.
Therap. Monatshefte, 1888.

[7] In the Deutsche Medizinal Zeitung, November 6, 1888.
[8] American Journal Medical Sciences, 1888, p. 285.

or eight o'clock with the evening meal, and to adapt the dose to the individual. But this determination of the individual dose constitutes a sometimes insurmountable obstacle to the use of sulphonal. The dose probably most often recommended by writers is from fifteen to forty-five grains, and it has been repeatedly claimed that unpleasant after-effects only follow the administration of a dose unnecessarily large. But this is not the fact. Rosin found that fifteen grains were seldom, if ever, enough to cause sleep, except in three cases in which starch, given under the name of sulphonal, had an equally good effect. Other observers believe that an efficient dose for men is sixty grains, and for women thirty grains, and that the best results are not obtained until the third night of administration. Unpleasant secondary effects have been observed in a certain proportion of cases. Prominent among them may be mentioned a condition of excitement instead of the wished-for sleep. Temporary delusions after the ingestion of the drug, nausea, dizziness, and headache, are effects which may follow the ingestion of sulphonal. The production of a marked sense of fatigue, of depression, and of confusion of mind is not infrequently referred to by authors. Severe motor incoördination and a somnolent condition are liable to appear if sulphonal be given at the same time with opium or to opium habitués. Unpleasant results following the administration of sulphonal in a case of angina pectoris are reported.

The large majority of writers pronounce favorably for sulphonal as a hypnotic. Its chief disadvantages are: the slowness of its action, that it may prolong its effects into the following day, it is difficult to determine the suitable dose, it may produce unpleasant secondary effects, and it very often fails to exert any hypnotic action.

Paraldehyde, and especially amylene hydrate, is preferred to sulphonal, and disagreeable results following the administration of amylene hydrate are much less frequently reported in the journals than is the case with sulphonal.

The disagreeable taste of amylene hydrate is entirely removed by giving the full dose, forty-five minims, in three capsules of fifteen minims each. It is especially to be preferred where a rapid hypnotic action is desired, or where there is not time to learn by repeated trial the amount of sulphonal suited to the patient in question. In cases where the stomach is irritable, it is probable that sulphonal will usually be more easily tolerated.[9]

HYOSCINE.[10]

In Professor Jolly's wards, in Strasburg, hyoscine was given in twenty three cases, chiefly mania, melancholia and dementia. In 80%, five to seven hours sleep was obtained; in 14%, three to four hours, and in 5% the result was negative. Among them two cases after a subcutaneous injection of $\frac{1}{100}$ to $\frac{1}{120}$ of a grain, became pale, complained of dizziness, heaviness in the head and indisposition, and there was no sleep. In a paralytic $\frac{1}{100}$ grain brought on a delirium, which continued several hours without sleep. Better results followed the administration by the mouth than when given subcutaneously; the action comes on more slowly but continues longer and is less dangerous; the dose is about twice as much, $\frac{1}{90}$ to $\frac{1}{60}$ of a grain. By whatever channel the drug is absorbed the system is soon accustomed to it, and it becomes necessary to increase the dose, sometimes up to $\frac{1}{30}$ grain a day. It is then advisable to give up its use and choose some other hypnotic for a few days. It is an inexpensive drug, and it diminishes excessive perspiration. In insomnia of patients with active motor disturbance, hyoscine seems to be the best hypnotic; with quiet but sleepless patients, chloral, amylhydrate, sulphonal and paraldehyde are better. Hyoscine excites undesirable symptoms more readily in nervous diseases not accompanied by cerebral affection.

Buddee in his thesis[11] published the following results of trials: "On the tremor of paralysis agitans, and in tremor senilis and alcoholicus, it acts promptly, also procuring sleep in these cases; the influence on the tremor is not permanent, however. A constant effect is a sense of fatigue. Habituation is quickly established, so that the dose must be increased.

Dr. Fischer[12] found it very successful in the treatment of mania, and as a hypnotic in the dose of $\frac{1}{120}$ to $\frac{1}{60}$ grain in distilled water subcutaneously. Purely as a hypnotic Fischer discourages its use until other drugs have failed, because its depressing effect is felt by the whole system.

Salgo, chief of the insane asylum in Budapest, founds his opinion on several hundred trials[13] and declares its action in raving, excited patients extraordinarily successful. In these cases, however, one may scarcely speak of a genuine, full sleep; the patients are always sleepy, and yet always awake. They may even take their food while under the influence of hyoscine.

COCAINE.

Dr. Szumann in the *Therapeutische Monatshefte* suggests some limits within which cocaine may be used with safety, a point of very practical interest. With doses for adults of one-half to three-fourths to one grain subcutaneously he saw no untoward effects; one grain, however, is adapted only to robust individuals. Some patients will, of course, bear very large doses, among them certain opium takers, who have used as much as seven to thirty-seven grains daily, though one may get toxic symptoms in such patients from an injection of one and a quarter grains.

With nervous patients, and also with those having cardiac disease, as well as those inclined to cerebral congestion, large doses of cocaine may prove dangerous on account of the marked effect on the heart and circulation. Where injections of cocaine are made about the head, not more than half a grain should be used.

COCAINE IN CANCER.[14]

After the removal of the entire left breast for cancer the disease reappeared. During three months the usual intense pain which accompanies such cases set in, and was not relieved by the ordinary treatment after a fair trial.

An ointment of cocaine, one in twenty, had a marvellous effect. The pain was subdued almost immediately, and continually kept under control by its use. It was used for two months, there having been no occasion during that time to increase the strength. The patient died without the least suffering.

(To be continued.)

[9] Therapeutic Gazette, May, 1889.
[10] Berliner klinische Wochenschrift, December 10, 1889.
[11] Quoted in Deutscher med. Wochenschrift, 1888, p. 407.
[12] Lancet, 1888, p. 1311.
[13] Therap. Monatshefte, 1888, p. 298.
[14] Lancet, January, 1889.

Clinical Department.

RUPTURE OF KIDNEY. — RECOVERY.

BY J. ARTHUR GAGE, A.M., M.D., LOWELL.

THE patient, L. S., is a male, single, twenty-three years of age, and of temperate habits. His family is phthisical. The patient himself is of good muscular development, accustomed to athletic work and generally free from sickness. For the last year he has been under the writer's treatment for occasional attacks of colic with suppression of urine. During these attacks the urine contained albumen and casts. During the last winter the patient has been somewhat paler than usual, and after successive examinations a diagnosis of commencing Bright's disease was made.

On January 13, 1889, while skating, he was struck by the shoulder of a skater coming in the opposite direction, in the left hypochondrium, and thrown upon his back. He started to rise, but fell back upon the ice, complaining of severe pain in the left side. He was placed upon a door, and carried to the house, where he was given some whiskey and a small dose of opium. A doctor present reported that he vomited, and that his pulse was fast and irregular. About an hour after the accident I first saw him with Dr. Charles Dutton, of Tyngsboro. The patient looked pale (his usual condition), but the pulse and temperature failed to show any unusual elevation. Physical examination with the patient on his back showed nothing abnormal about the abdomen, and no special spot of tenderness (a hæmorrhagic spot appeared later over site of blow). He remained quiet for an hour, when, in attempting to raise him to a sitting posture, he complained of pain in the left side just below the ribs, and of faintness. He was given a subcutaneous injection of one-eighth of a grain of morphia, and placed upon a mattress, upon which he was carried in a market-wagon to his home, four miles distant. He complained of considerable pain during the ride. He slept some that night, and felt comfortable the following morning. I was, however, obliged to catheterize him obtaining about sixteen ounces of simply high colored urine. (Three days later he confessed that on the 14th, in the forenoon, he stood upon his feet, and tried to walk while the attendant was out of the room.) On the evening of the 14th he was restless; temperature 100° F., pulse 120; and fresh blood in considerable quantity was withdrawn with the urine through the catheter. On physical examination dulness was found over the left side, extending from the median line of the back to within two inches of the umbilicus, and from the margin of the ribs to the top of the pelvis. There was also slight swelling over the left back as compared with the right, and this was tender to the touch. During the night the pulse went up to 130; he vomited, and only slept about three hours with the aid of morphia. On the morning of the 15th, Dr. J. C. Irish saw him with me in consultation, and the diagnosis of a rupture of the kidney with hæmorrhage, was confirmed. The treatment was absolute rest upon his back, subcutaneous injections of morphia, p. r. n., and what milk and water his stomach could retain. Blood was now obtained in every specimen of the urine, of which twenty-seven ounces were drawn on the 16th, his temperature being 100° and his pulse 100. Microscopic examination showed plenty of fresh blood and some broken-down corpuscles, but no casts could be found. On the 17th, thirty-five ounces were obtained, and there was a large chocolate-colored sediment in each specimen. The temperature was still 100°, and the pulse 80. He rested better, and was able to take considerable quantities of milk and pure water. On the 18th there were thirty-one ounces with a large sediment, and his pulse had dropped to 77. On the 19th his pulse had dropped to 70, and there were thirty-two ounces. The microscope showed a few pus corpuscles; otherwise the sediment consisted of broken-down blood. The line of dulness on the front of the abdomen was receding about a finger's breadth a day, and the tenderness was also diminishing. During the 20th and 21st his temperature remained at 99° F., and his pulse at 70. The amount of urine increased. On the 22d he passed the urine himself for the first time. He was now ordered five grains of acetate of potash three times a day. During the next week his temperature gradually declined to normal; his pulse remained at 70, and of good strength; the amount of urine averaged about fifty ounces per day; and he was able to take light nourishment. The sediment in the urine slowly diminished in quantity, but did not change its character; but at no time was the amount of pus sufficient to be noticeable. On February 3d the temperature and pulse were normal, and the dull area on the left side had diminished to a spot about the size of an orange, in the back. The patient passed sixty-three ounces of light-red urine. The sediment showed broken-down blood corpuscles and considerable granular débris with a few pus corpuscles. The patient was free from pain, was eating well, and for the first time in three weeks was turned from his back toward the injured side. This caused him no inconvenience except slight dizziness, and he was now turned daily, allowed to sit up at the end of the week; and in five weeks time from the accident was up and about the house. At the end of two months he had returned to his work, that of a bookkeeper, which he has been able to continue uninterruptedly since. At the time of writing the condition of the urine is as follows: specific gravity 1,016; albumen, slight trace; sediment, no casts found.

Comments. — The picture which this case presents of hæmorrhage from the urinary tract, accompanied by a tumor lying under the margin of the ribs, the whole following upon a severe blow, is sufficient to indicate an injury to the kidney; but the nature and extent of the lesion offers a question of some interest when taken in connection with the sequence of symptoms. The blow which caused the accident was not of an unusually severe character to be encountered by a healthy individual, and was not so regarded by the patient until he found that he could not rise without severe pain. In short, the diseased structure of the kidney must be held partly responsible for the result. Again, although undoubtedly the chief injury of the kidney occurred at the time of the accident, it gave rise to no hæmorrhage (visible in the urine), and no tumor appreciable upon examination over the anterior and lateral wall of the abdomen until more than twenty-four hours after the accident; and this followed upon an effort of the patient to get up and walk about his room. (It is possible that there might have been a slight hæmorrhage outside of the kidney that was not detected at the first examination.) It seems probable that the original blow caused a tear of the kidney structure, and that the motion of the patient sixteen hours later extended this into the pelvis of the kidney. Some interest also

attaches itself to the result. It was confidently expected by the physicians that a lesion of this character would inevitably result in an abscess, yet the urine showed at no time any unusual amount of pus. The recovery in this case must, I believe, be attributed largely to the almost complete surgical rest obtained through the intelligent co-operation of the patient, there being neither active or passive motion of the patient's body for twenty-one days. I was asked by the patient what result the accident would have upon the course of his kidney disease. I told him that I did not think it would aggravate the disease in any marked degree. Indirectly, it has been of some benefit, since it has impressed upon his mind the importance of proper care in his general mode of life; and for the past six months he has been nearly free from his usual attacks attributable to the kidneys.

INTUSSUSCEPTION AND RUPTURE OF THE INTESTINE; LAPAROTOMY AND DEATH.[1]

BY F. B. HARRINGTON, M.D.

A MALE child, five months old, was sent to the Massachusetts General Hospital by Dr. G. W. Mills, of Medford, and Dr. T. M. Rotch, who saw the case in consultation, with a diagnosis of intussusception or of twist of the intestine. The child came under my care during the temporary absence of Dr. M. H. Richardson. Five days before entrance, having been previously healthy and without antecedent constipation, he was seized with sharp abdominal pain, which was shortly followed by a discharge of mucus and blood. On the following day there was vomiting, and several more discharges of blood appeared. Dr. Mills did not see the case until the third day, when he at once suspected the condition, and gave enemata of warm water.

When admitted to the hospital, two days later, after having been seen by Dr. Rotch, he appeared a robust child, but evidently suffering from severe pain, having the expression of those ill with peritonitis. The abdomen was somewhat distended, and there was frequent vomiting. A mass could be felt distinctly, lying midway between the spine of the ilium and the umbilicus. The temperature was 103.2°, the pulse was 150.

Ether was given, and a pint of water was injected at an elevation of three feet, and was at once discharged on removal of the syringe. Water was again injected with a pressure of four and one-half feet of elevation. The bowels were then gently kneaded, the water being retained by means of pressure upon the anus. This produced little or no apparent effect, and the water was at once discharged.

The abdominal cavity was then opened by an incision in the linea semilunaris. There was an escape of water, showing that an opening existed in the intestine. Coils of comparatively healthy intestine were found presenting. Below these a mass of intestine was found, which presented its mucous membrane, being an inverted tube with an apparent length of four or five inches. At the end of this tube of inverted intestine was an opening, which admitted a probe for a considerable distance, showing that the intestine was doubled upon itself, and that the condition was an intussusception which had escaped through a rupture in the intestinal wall. The intussusception was, with considerable difficulty, reduced. It was found to consist of the cæcum and the colon, the latter containing a longitudinal slit, an inch and a half long, which had apparently existed for some time.

The appendix cæci was in a sloughing condition and was removed, there being a distinct line of demarkation, the result probably of pressure. At a short distance from the tear in the colon was a surface from which blood oozed and which was so thin that the serous walls were sewed together with several stitches.

On examination of the small intestine a tight constriction was found two inches from the cæcum. Above this point the gut was distended. There was no escape of gas or fæces after the reduction and firm pressure caused only the escape of minute amounts of gas through this constriction. This constriction made it necessary to open an artificial anus above that point. The edges of the ruptured colon were sewed to the edges of the abdominal wound. The small intestine was attached above the constriction to the abdominal incision, and when all was tight, an opening was made and a small amount of gas and fæces escaped Before closing, the abdominal cavity was hastily washed with warm water.

The operation was long and difficult, the abdominal cavity being open for more than an hour.

The child died one hour after being taken back to the ward.

The following is a demonstration of the specimen by Dr. R. H. Fitz, after its removal from the body:

The mucous membrane of the colon, for five inches below the valve, was extensively, uniformly and deeply injected. The lining membrane of the ileum, for two inches above the valve, was also injected, though not so intensely as that of the colon. In the cæcum, near the origin of the vermiform appendix, was an elevated, button-shaped patch of thickened, necrotic mucous membrane, a third of an inch in diameter. Four and a half inches below the valve was a line of sutures in the intestine, one inch long, and a short distance above it was a linear thinning of the intestinal wall, perhaps a half-inch long, apparently the result of a rupture of the muscular coat. A longitudinal rent through the bowel, two inches long, began twelve inches below the valve. Its edges were slightly everted, the mucous membrane along the rent deeply injected, and at the lower end was a gangrenous patch separated by a narrow bridge. The peritoneal surface of the colon along the rent showed a narrow margin of false membrane. There was also a linear cut, an inch long, in the ileum, some four inches above the valve, without everted edges or adherent false membrane.

The appearance of the specimen suggested that the invagination was ileo-colic, the cæcum being forced into the colon, and the strangulation affecting the upper part of the colon.

[1] Read before the Boston Society for Medical Improvement, October 14, 1889.

— The German correspondent of the *Medical Press* gives the following remedy for tapeworm, recommended by Dr. Numa Canopi. In the evening a dose of castor oil. The following morning eight grammes of thymol divided into twelve doses are to be taken, a dose every quarter of an hour, and after the last dose of thymol, a dose twenty grammes of castor oil. A few minutes after the last dose of castor oil is taken the tapeworm is expelled entire.

A CASE OF INTUSSUSCEPTION IN A CHILD THREE YEARS OF AGE, SUCCESSFULLY TREATED BY RECTAL INJECTION.[1]

BY JOHN W. FARLOW, M.D.

N. R., a three-year-old boy, had always been well. I saw him March 7th, with the story of having been somewhat under the weather. His mother had given him castor oil, which produced four or five loose stools. I saw him in the morning, and found him crying at intervals and putting his hand near his umbilicus. The anus was rather relaxed and he passed a little blood and slime from time to time. Nothing was felt in the abdomen.

At 4 P. M. the pain had increased and was paroxysmal; at 9 P. M. the same condition, only more pain. The next morning early I found that he had slept some in the night, but since six o'clock he had cried and thrown himself round on the bed and over on to his face. He still passed the blood and slime, but no fæces. He kept putting his hands near the umbilicus and said the pain was all there. To the left of the umbilicus a very marked fulness could be seen, the lower part of which was dull and rather firm, while the upper part was tympanitic. The diagnosis seemed assured.

The boy was inverted, and his feet held up high. By means of a Davidson's syringe I injected slowly into his rectum one and one-half pints of luke-warm water, at the same time trying to press back the tumor from the outside. The child only cried the harder. About fifteen minutes later he got up and passed the water. Nothing but a little blood came with it, but on getting back to bed he stopped crying, and from that moment the pain entirely ceased and the tumor was no longer felt.

The case was uneventful after that. He had a fair stool March 11th, three days after the intussusception was reduced. I have seen him several times since, and he continues in good health.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

F. B. HARRINGTON, M.D., SECRETARY.

MEETING of October 14, 1889. DR. W. L. RICHARDSON, President, in the chair.

DR. E. J. FORSTER read a paper on

MUSHROOMS AND MUSHROOM POISONING.[1]

PROFESSOR FARLOW and DR. SABINE discussed the paper.

DR. M. H. RICHARDSON reported a

CASE OF PREGNANCY COMPLICATING OVARIOTOMY.[2]

DR. F. MINOT asked whether an attempt had been made to hear the fœtal heart, which was generally audible even through the abdominal walls at the fifth month; and one would suppose could be detected still more easily in case of pregnancy if the stethoscope were applied directly to the uterus itself.

[1] This paper will be published in full in the Journal.
[2] See page 480 of the Journal.

[1] Read before the Boston Society for Medical Improvement, October 14, 1889.

DR. J. HOMANS cited a case in which Dr. C. C. Lee, of New York, punctured a uterus with a trocar and drew off some fluid, and yet the woman went on to full term and had a normal delivery. The appearance of the pregnant uterus is such that one can almost always recognize it. It is covered with peritoneum, beneath which one sees the pinkish muscular fibres. It might be mistaken for a succulent fibroid, but hardly for an ovarian tumor. I have had but one case similar to the one reported. In that the uterus was much smaller. The patient recovered perfectly from the operation, and about eight weeks later aborted, the fœtus being about two months old. She has since been delivered of a healthy child.

Dr. Homans then related a case of pregnancy, complicating the removal of an uterine fibroid by laparotomy, in which he had diagnosed uterine fibroid in a young woman and had advised against marriage. Several months later he was called to see her, and found a rapidly growing tumor which was causing a good deal of discomfort. The woman had been married three months, and had not been unwell since her marriage. There being some question as to the diagnosis, the uterus was punctured, a section of the tumor procured and sent to Dr. Whitney, who pronounced it fibro-myoma. Immediately upon puncturing the uterus the woman was in great agony, and became insane. She refused food, and her condition was such at the end of a week that hysterotomy was done and the tumor removed. The tumor had grown from the uterus in such a way that it was shaped something like the blowing part of a pair of bellows. The tumor weighed about fifteen pounds. It was a very solid fibrous tumor. Neither ovary was removed, nor either broad ligament disturbed. The operation brought no immediate relief. Ten days later she aborted, the fœtus being about three months old. Her mind then began to clear up, and she recovered perfectly. My action in this case might be criticised, but the pregnancy could not be made out with certainty, and it was impossible that the uterus and the tumor should go on increasing and the woman live, except in agony. The insanity following the puncture was, I suppose, puerperal mania. Menstruation has taken place somewhat through the scar.

DR. J. C. WARREN: I had one case of ovariotomy complicated by pregnancy of about three or four weeks, as well as I could calculate. The patient went on to full term and had a healthy child.

DR. HOMANS, in reply to a question, said he could discover no cause for the acute onset of the pain following puncture.

DR. M. H. RICHARDSON, in closing the discussion, said there were two reasons why he did not use the stethoscope, there was no very urgent reason for removing the uterus in the uncertainty and he would not use a stethoscope which had not been specially prepared to insure asepsis.

DR. F. B. HARRINGTON reported a

CASE OF INTUSSUSCEPTION AND RUPTURE OF THE INTESTINE IN A CHILD OF FIVE MONTHS, WITH SPECIMEN.[3]

DR. G. W. MILLS of Medford: I was called to this case, October 4th, about 4 P. M. The child was said to have passed blood. I found a well-developed infant of five months which had been nursed at the breast

[3] See page 485 of the Journal.

since birth. It was then in a somnolent condition. It had been under the care of a homœopathic physician for four days previous. The parents informed me that about 5 P. M., October 1st, the child was taken screaming, cramps in the bowels, tossing about of the arms and legs, vomiting and straining. Later, about 8 P. M., it had two dejections of blood and mucus. The day previous (September 30th) the child had two dejections, natural in appearance, and up to that time had been a healthy child.

The history during the time previous to my visit was that the child had attacks of pain, screaming and vomiting, with rectal tenesmus, passing only bloody mucus, and then intervals of tolerable quiet. Vomited the mother's milk, but retained small quantities of water and Mellin's food.

On examination, I found the temperature 100.8°, pulse about 130, respiration very rapid. Abdomen tympanitic, and on the right side in the inguinal region some tenderness, and what I thought might be a tumor. There was marked dulness there, and also on the left, I thought. The examination by the rectum was negative. The parents had given it a small enema two hours previous, the first mechanical treatment, and nothing passed but mucus and blood. I gave it an enema, about a pint of water, which came away tinged with bloody mucus. The dulness remained in the right inguinal region, and the child seemed to be in considerable pain, for which I gave an opiate. Stimulants were ordered.

I found the pulse in the evening (9 P. M.) 140, respiration 48, temperature 101.3°. Vomiting, straining and distress continued unrelieved, and the child evidently very weak. I told the parents that I would take counsel in the case, and that it might be necessary to open the abdomen to relieve the invagination which I thought existed.

October 5th, 3.30 A. M., pulse 140, symptoms unchanged; 8.45 A. M., pulse 140, temperature 99.3°; 3.30 P. M., pulse 136, respiration 36, temperature 100.1°; 10.45 P. M., pulse 120, temperature 101.7°. Abdomen tympanitic; symptoms unabated.

October 6th, 11 A. M., Dr. T. M. Rotch saw the patient in consultation, confirmed the diagnosis, and took charge of the case until it went to the hospital.

Dr. T. M. Rotch: The physical examination was almost negative. Usually in these cases by examining per rectum I can find a tumor by which I can make the diagnosis. In this case it felt to me as if something were pressing the intestine down, but I could not feel the invaginated portion. The abdomen was tympanitic, but nothing that could be called dulness was found at that time. There was a slight sensation on palpation of a tumor in the right inguinal region, but nothing very definite. The general symptoms were those of invagination and I decided to try hydrostatic pressure to a very limited extent, as the symptoms began on Tuesday and I saw the case Sunday morning. It is rather rare for a child to live as long as that with invagination. I suppose adhesions must have taken place and possibly sloughing. I tried hydrostatic pressure with a column of water six feet. I then decided that laparotomy should be performed at once.

Dr. R. H. Fitz remarked that the case illustrates thoroughly the importance of one of the conclusions he had arrived at in a paper read before the International Medical Congress a year ago, that after two or three days it is inadvisable to use forced injections for reduction. It seems as if the best hope for relief then lay in laparotomy; but if a still longer time, say a week, has elapsed, it is a question whether laparatomy would be as efficacious as purely medical treatment.

Dr. J. W. Farlow reported

A CASE OF INTUSSUSCEPTION SUCCESSFULLY TREATED BY RECTAL INJECTION.[4]

Dr. J. Homans: These are very hard cases to reduce after the abdomen has been opened, particularly where they have existed three or four days and cathartics have been given. I remember a case in a child of six months, where the tumor was in the left iliac region and on doing laparotomy the whole of the cæcum and the whole of the colon were invaginated into the upper part of the rectum. The practical point about reducing those cases is that you cannot pull the invagination out, but you have gradually to skin it out as you would put a glove on a finger.

Dr. T. M. Rotch: That is true where adhesions have taken place. The age of the child is an important element. The greater number of cases of invagination occur between the fifth and tenth months, propably the greater length of the mesentery at that time allowing a greater play of the intestine.

Dr. J. W. Farlow: It is a question with me whether opium in large doses in these cases is not contraindicated as increasing the relaxed condition of the bowels and whether it is not better to give it moderately rather than try to overpower the pain so that the child may keep quiet.

Dr. T. M. Rotch: It is very seldom that opium is needed in young infants with intussusception, they seem to suffer very little pain. They look very well and keep on nursing, and even after the operation they may nurse until near the time of death.

Dr. Farlow showed a

CONCRETION FROM THE TONSIL,

originally the size of the head of a large shawl pin, which he had removed from the tonsil of a girl of eight years. She had been troubled for some time with a hard paroxysmal cough, worse at night, and bad breath. She had been seen by several physicians who had simply considered the tonsil enlarged and had prescribed cough syrups in vain. By hooking forward the anterior pillar of the fauces, in a depression between the large, lower lobe of the tonsil and a smaller upper lobe, could be seen this large concretion which was removed by the dull curette. The cough was cured and the breath was no longer offensive.

Dr. Farlow thought that these depressions which are often concealed by the anterior pillar of the fauces and which are frequently the seat of these large concretions, are generally overlooked in examining the throat.

Dr. F. I. Knight: I once saw a case of exactly the same kind only the concretion had become very hard and calcareous. It was in a lady between forty and fifty years old, who had had paroxysmal cough and pain in the side of the throat for many months. I saw her three or four times before I discovered this thing. On probing into the crypts of the tonsils I struck something hard, and on enlarging the opening and putting in a bent probe I hooked out this mass which was as large as a pea, and the removal of which gave instant relief to the cough.

[4] See page 486 of the Journal.

DR. J. C. Warren exhibited a case of Trephining Instruments selected by Dr. W. W. Keene, of Philadelphia.

DR. WYMAN showed a

NEEDLE TAKEN FROM THE BREAST OF A CHILD OF EIGHT MONTHS.

The history of the case is as follows: The child was brought to my office October 12th, the mother thinking there was something alive in the right chest. On examining I found midway between the nipple on the right and the central line of the sternum a pulsating area a little smaller than a quarter of a dollar, the skin of which was red and the pulsation over it could be plainly seen. On putting the hand over it, I could feel very plainly the pulsation and in the centre of it there seemed to be a foreign body which felt like the head of a pin pulsating with each pulsation of the heart. The heart-sounds, however, were found to be normal. As the diagnosis was doubtful, Dr. F. C. Shattuck was called in. We decided to cut down upon the prominent point and this needle was found and withdrawn. The direction of it seemed to be toward the right ventricle. The child is now all right.

DR. F. C. SHATTUCK: Every cardiac systole was distinctly communicated to the foreign body which must therefore have been in immediate contact with the heart valve or pericardium if its point was not imbedded in the muscle of the right ventricle. Dr. George L. Peabody, of New York, showed a year ago in Washington at the meeting of the Association of American Physicians a pin which was imbedded in the wall of the left ventricle and a portion of which projected into the cavity. It was evident from the condition of the pin and the presence of a cicatrix that the pin had lain there for some time. The immediate cause of death seemed to have been Bright's disease.

DR. T. M. ROTCH: It is possible that in this case the foreign body had penetrated the heart. About a year ago I showed a slate pencil which in all probability had penetrated one of the ventricles. The child recovered. Dr. Dwight's anatomical opinion on examining the child was that it must have entered the heart.

DR. M. H. RICHARDSON showed a

SUBMUCOUS FIBROID OF THE UTERUS

which he had removed without difficulty, the operation requiring but ten minutes.

DR. J. HOMANS thought these tumors were usually difficult to remove. The removal had required two hours in some of his cases. He had sometimes had to resort to midwifery forceps to remove the tumor after cutting off the presenting part with the écraseur.

DR. J. C. WARREN thought in some cases the operation was very difficult. A method he had found to work very well was to make spiral incisions instead of attempting to get the knife or scissors through the pedicle at first. Begin perhaps half-way up the pedicle from the fundus and remove the tumor. The tumor yields at that point, comes down and by twisting round in a spiral way you gradually get to the pedicle. I found that quite an easy method in one case in which I tried it.

DR. A. T. CABOT: In the polypoid form of growth the écraseur seems to me a very good instrument. I have removed several where they have been distinctly polypoid, one the other day as large as the fist, a sloughing fibroid; and after it was cut off with the ecraseur, which was done very readily, it left hardly an inequality on the surface of the cervix from which it came. I think where you can get the distinct neck of the polyp, I should prefer the écraseur to any other instrument, because you can place it so far up.

DR. M. H. RICHARDSON: In this case, if the wire had not broken I should have left more than half the tumor in. It was hour-glass shaped.

DR. J. HOMANS showed an

INTRALIGAMENTOUS CYST.

The history is as follows: A woman, thirty-eight, came to me a fortnight ago with a tumor in the left iliac and left abdominal region about the size of a small football, tense, rather tender, and on vaginal pressure with the finger she became nauseated. She first noticed a slight enlargement in February. Since April she had had no catamenial flow whatever. The uterus was distinct from the tumor, as far as could be made out, although the tumor was closely approximated to it; and from the length of time it had existed, I judged there was no extra-uterine or intra-uterine pregnancy. The tumor had been rather rapidly growing during the last month or so, and the great trouble was the extreme pain. She was a domestic, a poor woman. I thought, from the fact that she had not been unwell, that there was the possibility of retention of menstrual fluid, but could not make out that the uterus was enlarged, and that fluid is generally retained in the vagina, and not in the uterus. On operating, I found on the left an intraligamentous cyst, which I tried to enucleate but could not. The Fallopian tube opened directly into this tumor. The fluid was dirty looking, not particularly sticky, about three and one-half pounds.

DR. W. F. WHITNEY: There is, as stated, a communication between the tumor and Fallopian tube. As far as I can see, the membrane is continuous directly from one into the other, and the growth is a dilatation of the end of the Fallopian tube. It has grown deeper in than usual. I do not find any remnants of the ovary suggesting ovarian origin, and I think it is of purely tubal nature.

CORPUS LUTEUM.

In connection with this specimen, Dr. Whitney showed two tubes sent him for examination. They were quite large, thick walled, cavity dilated, more or less tortuous, and the membrane thrown into folds, red and shaggy, forming villosities which were markedly injected. One had a hole in it when received, so it was not known whether it contained fluid or not. The other was unopened and contained no fluid. Both were directly continuous with the normal Fallopian tube, and through it a bristle could be easily passed into this dilated cavity, showing an unobstructed passage from the uterus towards this cystic growth. The fact that the ovary was connected with one of these is interesting, and in that one was a large corpus luteum, which would be hard to differentiate from the true corpus luteum of pregnancy. That impregnation should take place under such circumstances seems a physical impossibility. As the tubes were dilated and grown together, the ovum could not get one way or the spermatozoa the other. At first the possibility was suggested that this vascular and filamentous con-

dition of the tube was the result of a tubal pregnancy. Microscopic examination, however, failed to reveal any of the characteristic structures of impregnation, and showed an extremely filamentous condition of the membrane, but which had nothing of the villi of the chorion about it. This is a case of chronic salpingitis, and there is a corpus luteum, which for all practical purposes would be regarded as one of true pregnancy.

AMERICAN GYNECOLOGICAL SOCIETY.[1]

THE SURGICAL TREATMENT OF POSTERIOR DISPLACEMENTS OF THE UTERUS,

by Dr. Wm. M. Polk, New York.

The author considered only those forms of retro-displacement which could not be benefited by pessaries. Operative procedure in these cases was divided naturally into direct and indirect methods. The indirect methods are Alexander's operation of shortening the round ligaments, anterior fixation of the uterus by suturing through the anterior vaginal wall, or the fixation of the cervix in the posterior vaginal cul-de-sac. Alexander's is the only one of these methods considered, the author's faith in it having been confirmed by fifty-two operations since June, 1883. The indications which he had given in 1886, he now modifies slightly. In extreme cases of retroflexion with prolapsed and tender ovaries benefit is usually only temporary. The benefit of the operation is questionable in ovarian prolapse, because there is usually accompanying disease of the organ itself or of its tube. The operation gives the most brilliant results in retroversion. In cases of prolapsus, it has a distinct and useful position as an adjunct to measures for restoring the pelvic floor and should always be employed. When Alexander's operation is contraindicated, or inefficient, the direct methods are to be employed. These methods fall into two distinct varieties: one utilizing the natural supports, the other creating new supports. Each has its own sphere, and experience must teach us which is the best in any particular case. The author has used them all and found none difficult of execution. The conclusions reached are, that when amputation of the appendages is demanded, reefing the upper portions of the broad ligament, including the round ligament (Tait's operation), is all sufficient. When the appendages are to be saved, the choice lies between the modifications of ventro-fixation, Wylie's operation of folding the round ligament, and the union of the round ligaments in front of the uterus, a method which the author has devised.

DISCUSSION.

Dr. W. H. Baker, Boston, accepts the preference given to Alexander's operation. Rather than do vaginal hysterectomy in prolapsus he would shorten the round ligaments and follow this by operations designed to narrow the pelvic outlet. He would do laparotomy where there was marked retro-displacement with adhesions. Central fixation would be found the best method in cases where the tubes and ovaries are not to be removed.

Dr. H. A. Kelly would restore the inferior supports before resorting to laparotomy for the relief of retroflexion. He thought the direct attachment of the uterus to the abdominal wall by suture was the ideal method, and he preferred to fasten the uterus by the ovarian ligaments rather than the broad ligaments, as the uterus was then held in a most favorable position of anteflexion, and there was a tendency to carry the cervix back toward the sacral hollow instead of forward, as in the former methods. Where the uterus was easily replaceable, he had several times done hysterorrhaphy without laparotomy by holding the uterus firmly forward in anteflexion against the anterior abdominal wall and passing several sutures from without through the abdominal wall, uterine tissue, and out again, the sutures being fastened by shot under which a silver coin or plate with a slit in it was slipped. The sutures should be well watched, kept antiseptic, and removed in two weeks, the patient in the meantime being kept in bed.

Dr. T. A. Emmet said that Dr. Marion Sims had a hollow canula made in 1859 for carrying the silver wire to be used in stitching the uterus to the anterior abdominal wall. He had passed this to the fundus in a case, but here his courage failed him and he did not finish the operation.

Dr. Polk, in closing the discussion, said that as vaginal hysterectomy is now done with so little risk, he might do it for prolapsus in a patient near the menopause. He thought that slight suppuration of the external wound was not injurious in Alexander's operation, as it insured a more certain result. Kelly's method he thought good, but the tension in certain cases might be too great. In his own device, he grasped the round ligaments three-quarters of an inch from each uterine cornu and tied them after bringing them together in front of the uterus. If necessary, a second ligature might be passed an inch or so in front of the first.

THIRD DAY. — MORNING SESSION.

THE RELATION OF UTERINE RETRO-DEVIATION TO PREGNANCY,

by Dr. A. Martin, Berlin, Germany.

While it was an admitted fact that pregnancy was impossible in certain cases of uterine retroflexion, he questioned whether it was so serious an obstacle as it is usually thought, and whether gravidity in these cases is such a dangerous condition. His paper was based on a study of one hundred and twenty-one cases. These all complained of the typical symptoms of the condition. Many cases had first applied for treatment for uterine catarrh, hemorrhages, tubal disorders, or perimetritis, and after the cure of these conditions had come back gravid. In the treatment, the bladder should first be emptied, then reposition effected by the fingers without the use of undue force, the patient being placed in the knee-chest position. A pessary should then be introduced and worn until the uterus will remain above the brim. If the pessary was inadmissable, a vaginal tampon of cotton-wool might be employed. Where the displacement recurred persistently, it was sometimes necessary to keep the patient in the prone position for a week or more. He concludes that congenital or acquired retroflexion is not the main obstacle to conception, but the congestion or endometritis which so often accompanies it. Most cases of retro-displacement of the gravid uterus do not attract attention and go on normally to term. In cases of incarceration, if replacement fails, we must consider the propriety of emptying the uterus or even of extirpating it.

[1] Concluded from page 466 of the Journal.

DISCUSSION.

DR. BACHE EMMET had seen but few cases in which pregnancy had been complicated with retroflexion and had usually considered such a displacement as a barrier to conception.

DR. HOWARD KELLY thought the tendency was to a spontaneous reduction and that only a small percentage of retroverted gravid uteri resulted in incarceration or abortion.

DR. T. A. EMMET considers that retroflexion never occurs except as a sequence of pelvic inflammation. Such a displacement had little to do with the prevention of conception so long as the tubes were permeable. He had sometimes succeeded in preventing abortion in these cases in the use of vaginal tamponing. He prefers to place the patient in the knee-elbow position for replacement, and would employ patience rather than violence. He thought the use of a pessary rather dangerous in these cases.

DR. A. J. C. SKENE could not conceive how any condition could arise which would justify the extirpation of a retroflexed gravid uterus.

DR. H. T. HANKS, New York, agreed with Dr. Skene. In the treatment of retroflexion during pregnancy he preferred vaginal tampons rather than pessaries.

DR. SKENE considered Peaslee's flexible ring perfectly safe for use after replacement.

DR. KELLY would first try gentle measures, then allow nature to have a chance and in case of need would not hesitate to do laparotomy and raise the uterus from above.

DR. J. R. CHADWICK had always found the uterus replaceable. He advised gentle manual and postural replacement, repeated several times if necessary. He was surprised at the desperate measures which had been advised.

RESULTS OF SUPPRESSION OF MENSTRUATION,

by DR. E. C. GEHRUNG, St. Louis.

He maintained that menstruation was not absolutely necessary. That under certain conditions it was a hæmorrhage and consequently a waste which frequently caused impoverishment of the blood, with its many morbid sequences. This bleeding can be lessened or arrested by the use of a careful vaginal tamponade, not only with impunity, but with a very beneficial result in curing the anæmia and its consequences. He recorded a series of interesting cases and cures which corroborated his views. He had never seen the method attended by any bad results, and it would relieve many cases which otherwise might necessitate much more serious procedures.

DISCUSSION.

DR. BOLDT could not consider menstruation ever a pathological condition. Anæmia from free menstruation was relatively rare, and might persist after the uterine appendages were removed and menstruation had ceased, thus proving its entire independence of this function. The method might have a certain limited field or value.

DR. ARTHUR W. JOHNSTONE, Danville, Ky., thought the essayist mistaken in considering menstruation a pathological condition. It was as necessary as respiration, its object being to wash away over-ripe lymphoid corpuscles. The lower animals with whom the uterus was in a horizontal position did not menstruate, while in the anthropoid apes and in certain monkeys which stood erect menstruation was regularly performed. If the vagina were tamponed, he thought there was danger that the blood would be forced into the tubes. He did not think the vascular system controlled menstruation, but the sympathetic nerves of the pelvis and the spinal cord. It was not the removal of the appendages which stopped menstruation, but the severing of the pelvic sympathetic nerves. He believed that menstruation was a part of the mechanism which prepared women for pregnancy.

DR. A. REEVES JACKSON said that while Gehrung might be wrong in theory, his experience had shown that his results were correct. He cannot see why the excessive loss of blood should not be prevented, and when the method was applied to prevent an excessive flow he decidedly indorsed it.

DR. GEHRUNG did not propose to repress menstruation except where the patient was so anæmic that the loss of blood could not be well sustained. If his theory might not be correct, his results were certainly very gratifying.

INTERMEDIATE TRACHELORRHAPHY,

by H. J. BOLDT, New York.

Knowing that certain pathological conditions will probably result from the presence of an extensive cervical laceration, it is right to pursue a course that will prevent them. For many and obvious reasons, it is impracticable to sew up tears immediately after delivery, and in operations done when the pathological changes have existed for a term of years, the return of the normal cannot be so complete as when the operation is done early. Intermediate trachelorrhaphy is the repair of the injury after the cessation of the lochia and before marked pathological changes have occurred. The author has done this operation twenty-six times and has been much pleased with the result. The operation is simple, an anæsthetic being required only in extremely nervous women; it is absolutely free from danger if properly performed, may be done in a physician's office, and the patient allowed to go home afterward, though in private practice they are usually made to lie down for a few hours. In performing the operation, the torn surfaces are carefully and thoroughly scraped with a very sharp curette, and brought together by carefully placed catgut sutures. The object of the operation was to prevent the conditions which would necessitate Emmet's operation.

DISCUSSION.

DR. BACHE EMMET thought that the object of the proposed operation was good, but that the cases in which it was necessary would be rare. It was impossible to say at an early day whether any operation would be required. Operation at the office was dangerous and could not be countenanced by this Society. A skilled gynecologist might do the operation safely, but others would fail. Boldt's ideas he considers dangerous to the average practitioner.

DR. SKENE thinks Emmet's views all sufficient, and that there is no present need for discussing the matter. The operation should not be done without an anæsthetic or at the physician's office.

DR. B. F. BAER, Philadelphia, said the operation should not be considered slight. It should not be done without anæsthesia. If laceration of the cervix was a lesion *per se*, the author of the paper was right in proposing its immediate closure.

DR. T. A. EMMET thought that Eve had a lacera-

tion and every parous woman since. He did not believe that any operation should be done in the absence of symptoms. Severe tears would be beautifully healed during the puerperium, if the patient received proper care, and the parts were kept aseptic. Cases were the most dangerous and most apt to become epitheliomatous where the lips of the tear remained soft and many pregnancies followed each other rapidly.

Dr. Engelmann thought Boldt's method might sometimes be of great service, but he did not approve of operation at the office.

Dr. Boldt, in closing, still asserted that if laceration is marked three months after confinement, it will not close by itself, and that his method would produce a cure quickly and safely. He did not advocate operation at the office, but said it could be safely done.

THE VALUE OF LAPAROTOMY IN THE DIAGNOSIS AND TREATMENT OF MINOR FORMS OF INTRA-ABDOMINAL AND INTRA-PELVIC DISEASE,

by Dr. T. A. Ashby, Baltimore.

The paper is a plea for the greater extension of the indications for laparotomy, in which he endeavored to remove the unreasonable prejudice which in some quarters was still maintained against laparotomy for diagnosis. There should be no mortality from simple abdominal section, and it was proper to perform it when a diagnosis could not be made by other means. In tubal and ovarian disease he would follow the middle course. Laparotomy was indicated for small intra-pelvic neoplasms in which the relations could not be otherwise determined. It was always indicated in extra-uterine gestation and was much to be preferred to the use of electricity. He also advocated it where there was persistent pelvic pain either from displaced organs or from neuralgic conditions where other methods had failed to give relief. The claims of explorative laparotomy were based upon sound logic and sustained by a growing and extended experience. Both its dangers and its difficulty had been exaggerated.

AFTERNOON SESSION.

PARTIAL ROTATION OF THE OVUM IN EARLY PREGNANCY AS A CAUSE OF PLACENTA PRÆVIA,

by Dr. Edward Warren Sawyer, Chicago, Ill.

As the ovum is not very firmly attached to the decidua during the early period of pregnancy, it is not impossible that a sudden jar might partially detach it, the detached portion rolling away from the uterine wall and becoming atrophic, while a fresh portion coming in contact with the uterine wall lower down, new villosities would develop and the placental site be transferred from the upper to a lower zone, so as to form a lateral placental prævia and a lateral insertion of the cord.

DISCUSSION.

Dr. A. F. A. King, Washington, said that very little was really known on the subject. He thought Dr. Sawyer perfectly correct in his hypothesis, except that it would not explain complete placenta prævia. In the literature of the subject he had found nothing of interest except that relating to the old theory of total detachment.

Dr. Sawyer thought an ovum entirely detached would be cast off as a foreign body. There was always a history of previous disease where there was complete placenta prævia. During the first fifteen days of pregnancy the allantois is projected from the embryo, and wherever it strikes the periphery the placenta is formed.

THE PROTECTIVE INFLUENCE OF VACCINATION DURING THE INTRA-UTERINE EXISTENCE OF THE FŒTUS,

by Dr. Cornelius Kollock, Cheraw, S. C.

The transmission of disease germs from the mother to the fœtus is an assured fact. He had questioned whether intra-uterine vaccination would insure the fœtus against small-pox. He had vaccinated thirty-six pregnant women of whom fourteen were primiparæ. All of their children were vaccinated, and where it failed, the operation was repeated several times. The results show that in many cases absolute immunity was conferred by the vaccination of the mother. The period of gestation and the number of the pregnancy greatly influenced the result. The later the mother was vaccinated, and the greater the number of her previous children, the greater were the chances of conferring immunity on the children.

DISCUSSION.

Dr. Sawyer corroborated the statements made and said the subject was of peculiar interest to him. He had for ten years been an official of the Chicago Board of Health, and had vaccinated over 15,000 children. Of this number there were many who could not be successfully vaccinated, and in these cases the pregnant mother had always been vaccinated or exposed to the variolous influence during her pregnancy. He thought the idea that it was necessary to revaccinate every seven years absurd, as an experience of over 75,000 cases had shown him that it was usually possible to vaccinate an individual in infancy and once again after puberty.

A CASE OF NEPHROTOMY FOR REMOVAL OF CALCULUS OF THE KIDNEY,

by Dr. James R. Chadwick, Boston.

Calculus of the kidney had been diagnosed by several eminent authorities in the case under consideration and the kidney had been opened for its removal, but a careful exploration had not revealed a calculus. Subsequent to the operation the symptoms disappeared for a time and then reappeared after disturbing influences which caused the patient severe mental worry. This worry had been long continued and the author now believed it to be the original cause of the patient's symptoms. The case showed the great difficulty in the diagnosis of certain cases of renal calculus and was one of thirteen reported in which no stone could be found. In several of the cases symptoms had disappeared after operation.

DISCUSSION.

Dr. Kollock had seen a similar case.

Dr. A. F. Currier suggested that the stone might have been a very small one in the cortical substance of the kidney and so have been overlooked. He recalled a somewhat similar case in which the passage of a stone the size of a pin's head relieved the symptoms.

Dr. Chadwick thought that a calculus could not have been overlooked in his case, and that the mental worry had been the sole cause of the symptoms.

The following papers were then read by title:

A CASE OF INTERSTITIAL PREGNANCY,
by R. STANSBURY SUTTON, Pittsburgh;

ELECTRO-THERAPEUTICS IN GYNECOLOGY,
by DR. G. APOSTOLI, Paris;

A CONTRIBUTION TO THE CLINICAL HISTORY OF CYSTIC DEGENERATION OF THE OVARIES,
by DR. R. B. MAURY, Memphis;

A BRIEF REPORT OF MY OWN ABDOMINAL WORK FOR 1889,
by DR. R. STANSBURY SUTTON, Pittsburgh;

STRICTURES AND OTHER OBSTRUCTIONS IN THE VAGINAL TRACT AND THEIR TREATMENT,
by DR. H. F. CAMPBELL, Augusta;

THE EFFECTS OF ERGOT UPON THE PARTURIENT UTERUS,
by DR. JOHN GOODMAN, Louisville;

IN MEMORIAM, DR. ELLWOOD WILSON,
by DR. WILLIAM H. PARRISH, Philadelphia.

The Society then adjourned.

The following gentlemen were invited guests of the Society: The members of the Obstetrical Society of Boston; Dr. Weeks of Maine; Dr. Virgil O. Hardon, of Atlanta, Ga.; Dr. H. M. Cutts, of Boston; Dr. A. E. Moseley, of Baltimore; Dr. Brooks H. Wells, of New York; Dr. H. Robb, of Philadelphia; Dr. Gardner, of Montreal.

The officers for 1890 are: *President*, John P. Reynolds, Boston. *Vice-Presidents*, William M. Polk, New York, and Ely Van de Warker, Syracuse. *Secretary*, Joseph Taber Johnson, Washington. *Treasurer*, Matthew D. Mann, Buffalo. *Other Members of the Council*, William Goodell, Philadelphia; W. H. Baker, Boston; Bache Emmet, New York; B. B. Brown, Baltimore. *Honorary Fellows*: Charpentier, Paris; Robert P. Harris, Philadelphia. *Fellows*: F. H. Davenport and A. D. Sinclair, Boston; J. M. Baldy, Philadelphia; Henry T. Byford and W. W. Jaggard, Chicago; William E. Ford, Utica; Andrew F. Currier and Clement Cleveland, New York.

The fifteenth Annual Meeting will be held in Buffalo, beginning the third Tuesday in September, 1890.

Recent Literature.

The Medical News Visiting List for 1890. Philadelphia: Lea Brothers & Co.

This has been thoroughly revised and brought up to date in every respect. The text portion (48 pages) contains the most useful data for the physician and surgeon, including the latest therapeutic novelties, their doses and effects, and an alphabetical table of diseases, with the most approved remedies. The classfied blanks (176 pages) are arranged to hold records of all kinds of professional work, with memoranda and accounts. Three styles are now published, as heretofore: Weekly (dated, for 30 patients); Monthly (undated, for 120 patients per month, and good for any year), and Perpetual (undated, and likewise good for any year); so that "THE MEDICAL NEWS VISITING LIST" adapts itself to any system of keeping professional accounts.

THE BOSTON
Medical and Surgical Journal.

THURSDAY, NOVEMBER 14, 1889.

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THE OPERATIVE TREATMENT OF CANCER OF THE RECTUM.

AT the last annual meeting of the British Medical Association a very interesting discussion took place in the Section of Surgery on "The Treatment of Cancer of the Rectum." The discussion was opened by Mr. Jessop, the president of the section, in an address which was published immediately, but the remarks of the gentlemen who followed him have but just appeared in print. Altogether the discussion was a notable one, and fully realized its object as stated by the president, "the collating and placing upon record the deliberate observations of men whose opinions are entitled to the respectful consideration of the profession."

Mr. Harrison Cripps presented a record of seventy cases treated by operation. He does not regard excision and colotomy as in any way rival methods of treatment. It is only in the cases in which excision is impracticable that the question of colotomy arises. It requires much care to select cases of malignant rectal disease in which benefit is likely to result from its removal. In not more than fifteen or twenty per cent. is excision practicable. In deciding upon excision, both constitutional and local conditions must be considered. The age, the general strength, and the state of the urine, materially influence the decision; for an operation, which in a middle-aged and comparatively healthy patient is one of small risk, becomes extremely hazardous in the aged and feeble. The abdomen should be carefully examined to ascertain, if possible, that the abdominal glands and lumbar viscera are free from implication; nor should an operation be undertaken unless there is a reasonable prospect of thoroughly removing the disease.

The risk to life, as given in the table published by Kelsey, is high, twenty-two deaths out of one hundred and forty cases collected. Mr. Cripps believes that a lower rate of mortality can be obtained by more care in the selection of cases, and greater care in the after-

treatment, and that ten to fifteen per cent. will be cured.

Mr. Allingham divided cancer of the rectum into three states: (1) the small annular growth, freely movable; (2) a large crater-like mass, fixed, and into which fæces pass, causing great pain and discomfort; and (3) a rapidly spreading ulcerative form, quickly involving the surrounding parts. The first of these is the only form in which excision ought to be thought of, and, moreover, only when it starts two inches up the rectum, and when the upper limit of the growth can be easily felt. The second and third headings are the conditions in which colotomy is indicated.

Rushton Parker, Professor of Surgery at University College, Liverpool, differed from the opinion that excision should be limited to cases where the disease was low; as by removing the coccyx and lower vertebræ of the sacrum, opening the peritoneum, and severing the lateral attachments of the bowel, the latter could be drawn down extensively.

Mr. Jessop, in four cases out of seven operated upon by excision, obtained results which he considers incomparably better than the most exceptional colotomy.

For Mr. Cripps the question of colotomy arises when excision is impracticable. Its advantages are partly the relief it affords to symptoms, and partly its influence on the growth of the cancer. The relief obtained and the suffering avoided are unmistakable, and Mr. Cripps believes that the progress of the growth becomes decidedly slower after the operation. The risk of life, according to recent statistics, is as high as thirty-eight to forty-three per cent., but this high percentage is due, not to any inherent danger in the operation, but to the delay in its performance. In this regard Bennett May has seen a difference in his own practice. Since 1885 he has held a higher opinion of the value of the operation as one of expediency as well as urgency, and he now recommends it when any notable difficulty exists. During the same period (since 1885) he has practised the inguinal operation. Consequently his inguinal cases (thirteen in number, with one death), show somewhat more favorable results as regards duration of life than his lumbar operations, which are twenty-three in number, with five deaths. Mr. Jessop expressed the same opinion, by saying that the high rate of mortality, which undoubtedly attends the operation when undertaken for the relief of complete obstruction, arises more from circumstances that precede the operation than from the operation itself.

As regards the choice between lumbar and inguinal colotomy, the general opinion seemed to favor the latter, as more easy and certain of execution, especially when the colon is empty and contracted, and the patient fat. All the real miseries of the artificial anus for the patient, Mitchell Banks, of Liverpool, thinks, are just as bad in one situation as the other.

Some modification of the operation seemed advisable to most of the speakers.

Mr. Mitchell Banks, of Liverpool, believes that a very great improvement over the usual plan of merely opening the colon laterally, and stitching the opening to the wound, consists in cutting the bowel clear across, and fixing the upper end. Other speakers were satisfied to gain the same point — the prevention of the passage of the bowel contents below the artificial opening — by drawing the gut forward so as to create a "spur" between the two portions.

Mr. Bennett May strongly advocated the immediate opening of the bowel in the inguinal operation rather than postponing it to a future day, after securing it in the external wound. All the advantages, both as regards security from peritonitis and obtaining a good working outlet, Mr. May believes can be obtained by proceedings less elaborate than those advocated of late. Mr. Cripps speaks a little more guardedly in favor of immediate opening, saying that there is no special danger in opening the bowel at once, if necessary.

Colotomy, as a preliminary operation to excision of the cancerous rectum, was regarded with favor; and a patient on whom the two operations had been successfully performed was exhibited by Mr. Marsh, of Birmingham.

Bennett May thinks that commonly, when cases of cancer of the rectum come under operation, there are already existing secondary deposits, and that these, more than the surgical difficulties, limit our efforts in the direction of a radical cure.

THE MASSACHUSETTS HEALTH REPORT.

The Twentieth Annual Report of the State Board of Health for the year 1888, maintains the high standard of excellence of the series. The expenditures of the Board, beginning with the sum of $1,168.98 in their first year, and less than $3,000 the second, have increased with the public confidence in their wisdom and usefulness to $71,934.28, including $7,638.15 for ordinary expenses, $8,915.40 for food and drug inspection, $30,450.92 for the maintenance of the purity of inland waters, $24,929.81 for the special report on a metropolitan system of drainage.

The correspondents of the Board report chiefly with regard to infection-diseases and questions of water-supply and drainage, showing an interest of the people in these subjects which is favorably reflected in the mortality returns, the weekly publication of which adds to their value.

The chemical and bacteriological examinations of water-supplies and the experiments in intermittent filtration of water and sewage through different soils have been continued and have been of material assistance in advising the fourteen towns which consulted the Board in matters of sewerage and drainage, and the eight towns in regard to water-supplies. The important points are brought out clearly that chemical analyses of water are often valuable chiefly by comparison with a normal standard for each particular

region, that continuous filtration finally accomplishes little purification of sewage and that intermittent filtration is quite effective only through gravel or sand, if in large quantities.

An investigation of thirty-two cases of small-pox and five deaths showed nothing important except the large number of unvaccinated persons in the State. Several State vaccine institutions are recommended. An inquiry into the prevalence of diphtheria in Pittsfield was negative except as affirming an infection-origin. Typhoid fever assigned to a polluted well in Canton and two hundred cases, by estimate, of malaria in Deerfield, were attributed to the common sources of those diseases.

Of 3,064 hogs raised near Boston, Professor Mark found 12.86% trichinous, and of 234 from public institutions 17.95%, as compared with 3.9% of 8,769 Western hogs examined by Dr. F. S. Billings. Professor Mark believes that hog-offal eaten uncooked by hogs, and not rats, is the source of infection.

Dr. Hartwell quotes 85% of 535 apothecaries and 66% of 225 physicians as being of the opinion that the opium and morphine habit is not growing in frequency. He concludes from the United States statistics of commerce and navigation that the importations of opium since 1870 have not increased commensurately with the population, and believes that the introduction of opium otherwise than legally is small, in spite of the high tariff and the extensive smuggling which has been detected in the northwest. Being unable to estimate the distribution of legally imported opium the writer sees no reason for supposing that the inhabitants of our State are more adicted to its use than those of other States of the Union. Why especial weight is attached to the opinions of five superintendents of insane asylums upon this point we are unable to see. The "consensus of the competent" is considered the nearest approximation to a settlement of questions of opinion, but Virchow's caution is a wise one that in multiplying opinions we may multiply error.

Mr. G. R. Tucker's paper is a timely contribution to the question of cleanliness in hospitals. His most interesting and accurate experiments in determining the quantity and distribution of micro-organisms are excellent illustrations of the scientific method of research. They show that the bacteria found in impure air, of which carbonic acid is again proved to be a pretty fair measure, are heavier than the atmosphere, are circulated by making beds, sweeping, etc., are best removed by mopping the floors after the air has become quiet, and that the sulphur method of fumigating as ordinarily used in the hospital is not efficient.

In the six years of administration of the Food and Drugs Act, 24,232 samples have been examined of which 14,912 were found of good quality, the specimens for the most part being of articles liable tosophistication and often suspected. Many of the added impurities were not injurious to health, as, for instance, the substitution of glucose in honey, syrups, etc. The percentage of adulteration has materially diminished. Of 1,566 samples of milk, Dr. Harrington found in 1,464 from thirty-nine cities and towns 794 above and 650 below standard, also 101 below standard out of 122 samples from suspected dairies. Dr. Davenport, in 960 samples largely collected from suspected sources, found 322 not fairly of the quality required by statute; eighteen were, however, sold as skimmed milk. In 299 samples from the western part of the State, examamined by Professor Goessmann, 252 were above standard, 47 below, and 10 skimmed. Here, also, the good effect of the law is made manifest as compared with previous years, and it should be borne in mind that there are undoubtedly pure unsophisticated milks which do not reach the statute standard of thirteen per cent. of solids.

The report will well repay, on the part of physicians and the public, a careful study.

MIGRAINE, ITS PATHOLOGY AND TREATMENT.

ACCORDING to Anstie, migraine (hemicrania) is a variety of neuralgia of the ophthalmic division of the fifth nerve. He remarks that the attacks of migraine often interchange with neuralgia seizures; that they often begin with pain distinctly located in the supra-orbital nerve, as the result of exposure to cold or other of the causes of ordinary neuralgia. This view is favored by Senkler in "Pepper's System of Medicine."

Romberg regarded migraine as a neuralgia of the cerebrum, but Hesse observes that the symptoms of this neurosis are equally compatible with its location in the branches of the fifth distributed to the meninges and bones of the cranium.

There is, however, much to be said in defence of the view that migraine is primarily a neurosis of the sympathetic nerve. According to Du Bois-Reymond, the phenomena of migraine are best explained by the supposition that there is abnormal excitation of the sympathetic on the affected side, and he emphasizes in this connection the retraction of the temporal artery, the pallor of the countenance, the dilatation of the pupil; all of which are due to tonic contraction of the vascular and oculo-papillary muscles.

But, as Jaccoud remarks, the constancy of these phenomena has not been established, and Moellendorff afterwards maintained a directly contrary view, to wit, that the symptoms of hemicrania depend on a unilateral relaxation of the vessels of the head, from want of energy of the vaso-motor nerves. Eulenburg[1] adopts an intermediate theory, affirming that a certain class of cases is undoubtedly vaso-motor in its origin. He describes two types of migraine: the sympathetico-tonic or angio-spastic, and the angio-paralytic or neuro-paralytic forms. In the one, the face is pale and sunken; in the other, it is hot, turgid and flushed during the height of the attack. In the one, the pupil is

[1] Ziemssen's Cyclop. Art. Hemicrania.

dilated and the temporal artery appears as a hard cord; in the other, the pupil is contracted, and the temporal artery is swollen and throbs with increased force. In the one, the eyes are pale and sunken; in the other, they are suffused and prominent.

Jaccoud reconciles the pathological differences above mentioned by assuming that there cannot be two vascular conditions so contradictory, as the substratum of migraine. If, he says, clinicians have witnessed opposite phenomena, it is simply because they observed at different periods; in other words, the paroxysm of migraine is constituted by an abnormal excitation of the sympathetic followed by a paralysis by exhaustion, which marks the decline and the termination of the paroxysm. The contraction of the vessels during the onset and the active period of the attack explains why the pain is exaggerated at each pulsation of the artery; as for the origin of this pain, it may be attributed to the vascular cramp itself, which compresses the nerve filaments contained in the unstriped muscles.[2]

Hemicrania is a disease from which no station or condition of life is exempt. Rich and poor, the man of ease and the fashionable lady, the mill-operative and the kitchen drudge are alike subject to migraine. Among the factors in its production, hereditary predisposition is the most potent. The disease follows the female line, being usually inherited from the mother only, and by the daughters only (Eulenburg). When there is a strong hereditary tendency, girls of quite a young age may be attacked by migraine, Eulenburg has known girls of four or five years to be sufferers.

In half the women affected with migraine, the attacks occur at the menstrual period or immediately after. In other cases, the attacks are due to mental excitement, after attendance at a party, at a theatre, etc. Sometimes the attack is provoked by reading and study; some persons have hemicrania from reading by artificial light. The attacks sometimes appear to originate in indigestion.

It is in this form of neuralgia that the recently discovered analgesics, antipyrin, acetanilide, phenacetin, exalgine, seem to do the most good. Here the triumph of guarana and caffeine is sometimes seen. When the attack can be traced to the stomach, ipecacuanha in one-fourth grain doses every hour has been commended, also rhubarb and soda, or some of the effervesing aperients.

In the angio-spastic variety, nitrite of amyl inhalations, and nitro-glycerine by mouth, have been beneficial. In the angio-paralytic form, ergot has been found useful.

Senkler speaks favorably of bromide of lithium, fifteen grains every hour for two or three doses. The effervescent bromide of caffeine, or bromo-pyrine, is a good preparation. Seguin speaks enthusiastically of cannabis indica, one-fourth grain doses of the alcoholic extract three times a day, to be continued for weeks and even months. Aconitia (one two-hundredth grain) and gelsemium have been praised; the former is perhaps, one of the most certain remedies in angio-spastic variety. Malarious forms are speedily benefited by large doses of quinine. Always, as prophylactic treatment, arsenic and cod-liver oil are indicated.

Anstie and Eulenburg think well of galvanism to the head and sympathetic. Firm pressure on the head and compression of the carotids sometimes give relief; the same may be said of sinapisms to the nape of the neck and the application of a hot-water bag to the back of the head.

After all, resort must sometimes be had to hypodermic morphia in the atrocious suffering of migraine.

[2] Jaccoud: Path. Interne, t. i, p. 478.

MEDICAL NOTES.

— "A False Conception" is not, as our readers might suppose, the title of an obstetrical brochure, but the name of a new novel treating of New York society life.

— A medical student, of New York, is reported to have manifested his lunacy by the strange freak of eating a portion of the body of a negro, which was being dissected.

— The corner-stone of the new Philadelphia Polyclinic and College for Graduates in Medicine, on the south side of Lombard Street, between Eighteenth and Nineteenth, was laid with elaborate Masonic ceremonies, November 4th.

— Dr. Robert H. Duncan, the surgeon of the Pacific Mail Steamship *Colon*, has brought suit against the city of Brooklyn for $60,000 damages, on the ground that he had intermittent fever, and the Brooklyn health authorities, acting on the belief that he had yellow fever, had him removed to quarantine.

— That the female sex make, on occasion, as good fighters as any body else seems to be indicated by a very lively row in the Hospital of the Women's Homœopathic Association, of Philadelphia, where one woman of the staff is engaged in ejecting another for practising Christian Science under an Eclectic medical diploma in a Homœopathic institution.

— Again a Chicago doctor has sued Miss Frances E. Willard, President of the Women's Christian Temperance Union, for $50,000, for some trouble connected with the jurisdiction over a hospital managed, or sought to be managed, by the Union.

— The Associated Charities of Denver have opposed the building of a hospital by the city because of the danger that the management of a hospital under the government of the city might be subjected in an injurious way to political influence. The advantage of placing such an institution under public control, in that the press and the public in general would feel free to investigate and criticise its management is admitted, and they go so far as to grant that this is impracticable in the case of a hospital controlled and managed by a church or a religious order; but believe that all the benefits that might flow from free criticism

could be obtained in the case of a hospital under the immediate control of this organization of charitable societies.

BOSTON AND NEW ENGLAND.

— The "Charity Club," a philanthropic institution of Boston, is said to contemplate the establishment of a new hospital for the surgical treatment of diseases of women of this city.

— George Francis Train, who has been confined in the Suffolk Jail, for several weeks for debt, at the instance of one of his creditors, was, last week, adjudged to be insane by Judge McKim, of the Probate Court, and released. The decision was founded upon the report of Dr. E. S. Boland, who was appointed by the court to ascertain Mr. Train's mental condition. This decision is in accordance with a previous one on the same subject made by the New York courts.

— Regarding the frequency of diphtheria in certain of the manufacturing towns of Massachusetts, we note that, in Lowell, there were "sixty-one cases of diphtheria and croup in October, with fifteen deaths from the same causes." From Lawrence, thirty-three deaths from diphtheria and croup are reported for the five weeks ending November 2d.

— The trustees of the Salem, Mass., Hospital have decided to employ a resident physician, and to make the superintendency a non-professional office. This will drop the present superintendent, Dr. George Z. Goodell. It is understood that the position of resident physician will be tendered to Dr. J. P. Fessenden.

— The commissioners appointed by Governor Burleigh of Maine, to select a site for the new insane asylum, have practically agreed upon a location on the river road to Orono, comprising about one hundred acres. The price to be paid is $20,000.

— At a special meeting of the Connecticut Hospital Society, November 4th, the bequest of $50,000 by the late Mrs. Ellen M. Gifford was accepted. This money will be used for the erection of a new building on the hospital grounds, in which incurable poor persons may be supported and cared for. The wishes of Mrs. Gifford will be fully carried out.

— The annual report of the trustees of the Maine Eye and Ear Infirmary at Portland, contains the gratifying announcement that the interest bearing debt has been liquidated and the institution is so much better prepared for its work. During the past year there has been an attendance of 6,300, comprising 856 diseases of the eye, the ear and the throat. Among 771 registered, 248 operations have been performed.

— The annual report of the Maine General Hospital shows that during the year 690 different patients have been under treatment. The authorities have decided to begin on the work of extension, which has been so much needed, and have obtained plans for an additional wing, which, when ready for use, will somewhat more than double the present capacity, while the increase of cost of maintenance will be in far less ratio. The current expenses of the past year were $32,687.41 and $17,703.66 was received from patients for board.

— The Eliot Hospital, at Manchester, N. H., is to be open to public inspection next week. The hospital building is nearly completed, but is not furnished. The trustees have fitted up one room at a cost of $75, and this will be the standard for the furnishing of the others, as the committee having the matter in charge desires that the furnishings throughout shall be uniform. Those who are contemplating furnishing a room are invited to inspect this one and model after it. The name of the giver will be permanently placed upon the room as a perpetual memorial of the donor. Persons or societies contemplating any such steps as the above are invited to communicate with the trustees at once.

— The twenty-seventh annual meeting of the New England Hospital for Women and Children was held October 29. During the year a nurses' home has been added to the institution by the purchase of the Farnsworth estate. The Home is named the Goddard Home for Nurses, in honor of several members of the Goddard family who have been benefactors of the hospital.

The report of the New England Hospital Dispensary, showed that during the year 3,175 patients have been treated and 9,800 visits have been made to those needing medical assistance. The number of patients attended at home was 955, of whom 85 were cases of midwifery. This has been done by the two physicians who reside at the dispensary. Since the establishment of this branch a society has been formed which supports several nurses doing similar work in the Boston Dispensary, and by this training nurses become thoroughly familiar with their work.

The resident physician, Dr. Helen Reynolds Kellogg, reported that the whole number of patients admitted to the hospital during the year was: Medical, 140; surgical, 126; maternity 110, with a total of 376. By the opening of the Goddard Home seven new beds are added with three additional wards.

The report of the nurses' committee showed that twelve nurses have had diplomas conferred upon them.

The report of the Treasurer, George A. Goddard, to September 30, showed current expenses, $35,279.70; construction account, $1,383.35; current receipts, $31,562.36; subscriptions for elevator, $1,190.50; ten legacies received, $42,116.79; the total receipts were $74,870.25. The board of officers were re-elected

— The Metaphysical College of Massachusetts has died — we beg its pardon, has an appearance of seeming to have ceased to exist. It has, in fact, dissolved, as recorded by resolutions of its corporators, October 29, 1889. From these resolutions we reprint, for the information of our readers, certain extracts.

Whereas, The Massachusetts Metaphysical College, chartered in January, 1881, to give instruction in scientific methods of Mental Healing on a purely practical basis, and to impart a thorough understanding of the power of Divine Mind to restore health, hope and harmony to man (*sic*). The college has fulfilled its high and noble destiny, and sent to all parts of our country

and into foreign lands, students instructed in Christian Science Mind Healing to meet the demand of the age for something higher than physic or drugging; and

Whereas, The material organization in the beginning was like the baptism of Jesus, "Suffer it to be so now," but the teaching was a purely spiritual and scientific impartation of truth, whose Christly spirit has led to higher ways, means and understanding. The President, Rev. Mary B. G. Eddy, at the height of prosperity in the institution, which yields an extensive income, is willing to sacrifice it all for the cause, even the advancement of the world in truth and love, and other institutions for instruction in Christian Science that are working out their periods of organizations will doubtless follow the example of the Alma Mater, after having accomplished the worthy purpose for which they were organized; and

Whereas, The hour has come wherein the great need is for more of the spirit instead of the letter, and science and health are better adapted to work this result than personal teaching. . .

Resolved, That an institution for instruction in Christian Science, which is the highest, purest and noblest of all teaching, should be of a spiritual formation wholly outside of material regulations, forms or customs. That as we find no platform in Christ's teachings for such material methods of instruction in Christian Science, we must come into the meekness of his methods as we rise in Christian experience; therefore,

That we thank the State for its charter, which is the only one ever granted to a college for teaching the science; that we thank the public for its liberal patronage, and everlasting gratitude is due to the president, Rev. Mary B. G. Eddy, for her great and noble work, which we believe will prove a healing to the nations, and bring all men to a knowledge of the true God, and unite them in a common brotherhood.

We have recently had occasion to notice in these columns, other diploma-granting institutions "wholly outside of material regulations, forms or customs," into the body of which it is to be hoped the Metaphysical College is not to be absorbed.

NEW YORK.

DEATH FROM ETHER. — INSANE ASYLUM, CENTRAL ISLIP. — NEW YORK COUNTY MEDICAL SOCIETY. — MORTALITY IN STATE OF NEW YORK, MONTH OF AUGUST.

— The Cartwright Lectures in New York will be delivered this year by Dr. J. S. Billings, U. S. A., Washington, D. C., on the subject of "Vital and Medical Statistics."

— A case of death from ether inhalation has occurred at Bellevue Hospital. The patient was a male, and the ether was being given by Dr. Theodore of the house staff of the hospital, preliminary to an operation upon the throat. The coroners' jury in the case rendered a verdict that death was caused by asphyxiation due to the administration of ether, complicated with cystic degeneration of the kidneys. Dr. Dunham, however, is of the opinion that death was due to heart failure, rather than asphyxiation. All the usual precautions were taken in the use of the anæsthetic.

— There are now 311 inmates at the institution for the insane at Central Islip, Long Island, belonging to the City of New York. The farm includes a large area of land, and although it has been established but a short time, very satisfactory work has been accomplished in making it a model of its kind. Drs. Evarts and Rowe are in charge of the institution which is conducted upon the cottage plan, and the patients, all of whom are males, are divided into three distinct groups with separate sleeping and dining rooms. At 9 o'clock each morning the patients go in gangs in charge of a keeper, marching to the open fields and woods with their implements flung over their shoulders and all appear to be happy and contented.

— During the months of October and November the New York County Medical Association has had an accession of over fifty to its membership, and the society is altogether in a very flourishing condition.

— The Bulletin of the State Board of Health for the month of August, which has just been issued, shows that the total number of deaths reported was 9,373, which is less by 600 than the mortality of August, 1888, but rather more than the average mortality for August for the last five years, which is 8,668. The average proportion of infant mortality in August for the last five years has been 45.5 per cent. and of deaths from zymotic diseases, 332.27 per 1000; for this month the proportions are respectively 40.7 and 280.75. From diarrhœal diseases there were fewer deaths than usual in August and about 1,200 less than in July. There is an increase in typhoid fever, the deaths from this cause reaching 2.4 per cent. while for the preceding four years the average per cent. of deaths in August has been 1.72.

—At the opening of the session of the Medical Department of the University of the City of New York which occurred on the evening of October 1st, a lecture on "Psychology, a Study for Students of Medicine," was delivered by Henry M. MacCracken, Vice-Chancellor of the University.

CHICAGO.

MEDICAL SCHOOLS. — A NEW MEDICAL LIBRARY.

— For some reason the number of students attending the Chicago schools this year is considerably increased. The average increase in the four regular medical colleges probably amounts to ten or fifteen per cent. over the previous year. We can hardly attribute this to the growing fame of the Chicago schools, as similar reports come from the eastern schools. The fashion of studying medicine among young men and women, like other fashions, seems to be a fluctuating one, without any apparent reason. One year there is an increase of students throughout the country, a second or third year may show the continuance of the increase, then the number remains for a year or two at a standstill, then recedes, and it becomes unfashionable to study medicine. It is the theory of some, supported by some facts, that the number of medical students increases in proportion to the lack of success in mercantile occupation, a depression in the mercantile world increasing the number of medical students, and extreme activity and success in the world of trade lessening the number of those seeking medicine as an occupation.

— One of the most successful medical colleges in Chicago is that for the education of women. It is now twenty years old, has for many years given one of the most thorough courses of instruction known in the West, last year graduated twenty-four women and had a class of ninety, and has just now moved into a new college

building that doubles, as far as a building can, its facilities of instruction. This college has announced that after the session of 1890 and 91, four years of study and attendance upon three regular courses of lectures will be required for graduation.

— The Chicago Policlinic celebrates the beginning of its fourth year of existence by moving into a new hospital erected solely for its use at an expense of $40,000 or more. This school has undoubtedly done some excellent work in the past and may be expected to do better work in the future. There is an objection however, to the way this Institution charges its fees, which criticism applies perhaps to all schools for practitioners in this country, certainly to the new post-graduate college recently inaugurated in this city. Instead of encouraging practitioners to take all or many of the courses of instruction given in such a school, there is reason to think it would be much better to allow the reputation, the thoroughness of instruction, the value of the courses in each department to determine whether it would be taken or not. If such an institution offered practitioners to come and take courses under its professors as they might like, or find it profitable, without undertaking to assure them of the value of the courses, so that they could take them or omit them as they might prefer, and if the courses were not up to their expectations, they would have the particular teacher and no one else to complain of, the fame of the school would be conserved, and an increased incentive be made to good post-graduate instruction. As it is, a poor teacher, wanting in energy to gather good material for instruction, is carried by the reputation of the institution and at the expense of the labors of the really good teachers. In a post-graduate school no teacher ought to be tolerated who will not and cannot draw a class by the reputation and value of his own work alone. The course suggested here is the only one in vogue everywhere in Europe, and has produced the best results. It is to be regretted that the Chicago Policlinic does not publish a list of its students.

— The profession is moving to establish a medical library by subscription from among its own members. Nearly $10,000 has already been subscribed and the hope of the movement is to have a permanent library building. This step seemed necessary, since the Public Library has failed to make for the profession a complete medical library, and the trustees of the new Newberry library have refused to attempt to make one. Whether the new movement will succeed, of course, remains to be seen. Everybody in the profession hopes that it will, but a dozen years ago a similar effort was made and a small library got together; the profession generally failed to support it and the movement was abandoned and the library given to the public library. It was impossible then to convince the majority of the medical profession that it was their duty and to their interest to help sustain an undertaking of this kind. May the efforts of the inaugurators of the present movement be more successful.

Miscellany.

THE PRINCIPLES THAT SHOULD UNDERLIE MEDICAL LEGISLATION.

THE Address in Medicine at the last Yale Commencement, of Dr. H. C. Wood, contains the following:

"As plainly to be seen and as fixed as the two great mountain chains which give form and climate to the American continent, are the principles which should underlie medical legislation. These principles are: first, to control the entrance to the profession, so that no man can begin to practice medicine until he is thoroughly acquainted with the fundamental sciences, anatomy, chemistry, pathology, physiology, the natural history of disease, etc., which underlie the art of medicine; second, to allow the man whose education in these sciences has been complete, and who has in consequence received a license to practice medicine, to apply his knowledge to the treatment of disease according to his own best judgment, untrammeled by the law."

A NEW METHOD OF DISINFECTION.

A NEW apparatus designed for the destruction of disease germs by the action of hot air has been built in the Health Department's disinfecting station in New York, from designs by Drs. Herman M. Biggs and T. Mitchell Prudden.

The apparatus consists in part of a brick oven, eight feet long, six feet wide and six feet high, with openings large enough to admit bedding and clothing. Inside the brick walls are coils of steam pipes, which are connected with a tubular boiler. A wire netting protects the clothing to be disinfected from contact with the steam pipes. Openings in the top and bottom of the oven lead into large tubes which are covered with felt to prevent the escape of heat, and the tubes join in a circular box containing a fan that can be made to revolve with great rapidity. Air in the oven can be raised to a temperature of 212 degrees, and by means of the tubes and fan it can be kept in rapid motion without loss of heat.

After the oven is filled with infected clothing a constant blast of hot air, sufficient to kill the worst germs, can be sent through it for any desired length of time without destroying the lightest fabric. It is expected that the rapid circulation of the air will cause the heat to penetrate evenly through the entire mass of fabrics, and that only a brief exposure to the dry heat will be necessary to complete the work of germ-killing. When the tests are made "telltale" thermometers will be wrapped up in bundles of cloth in different parts of the oven, and it will be easy to judge by a comparison of records how nearly perfect the apparatus is. The cost of the apparatus was about $1,500.

Correspondence.

EUPHRASIA OFFICINALIS.

NEW YORK, November 9, 1889.

MR. EDITOR, — In your issue of November 7th, I find a very interesting article by Dr. G. M. Garland, on Eu-

phrasia Officinalis, and its "great potency in the treatment of head-colds." Dr. Garland writes that "after searching through a large number of modern text-books on therapeutics," he "can record only three (Phillips, Patten, United States Dispensatory), which give even a meagre notice of this drug."

One reason why this is true, is because the drug is not officinal with us, but is officinal with the homœopaths. In my "Treatise on Nasal Catarrh,"[1] under the head of Abortive Treatment of Acute Coryza, I refer to the fact (p. 56), that, "According to Phillips, ('Materia Medica,' New York, 1879, p. 156), a few drops of the tincture of euphrasia officinalis (eye-bright), taken at the beginning of an attack of acute coryza, and repeated every two or three hours, will often abort it. This he knows 'by personal experience.' The tincture should be taken in a wine-glass of water."

I have, therefore, been familiar with the use of euphrasia for a number of years as a drug, which has been stated to abort an attack of acute coryza. Unless I am greatly mistaken, and I have tried most drugs that have been recommended for this purpose, none can always be relied upon. The one, however, which has in my experience proved the most trustworthy, is carbonate of ammonia in frequently repeated and tolerably large doses.

The regular physicians have long since given up euphrasia in the treatment of disease as being *inert*, and I am credibly informed by one of our most reliable pharmacists here, that the homœopaths rarely use it, doubtless for a similar reason. Very truly yours,

BEVERLEY ROBINSON, M.D.

[1] Second edition, New York, 1885.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 2, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	618	185	14.56	15.68	4.00	2.56	4.64
Philadelphia	1,040,245	399	138	14.75	15.00	1.50	4.00	5.25
Chicago	830,000	—	—	—	—	—	—	—
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	158	55	15.12	11.34	3.78	1.89	5.04
St. Louis	450,000	—	—	—	—	—	—	—
Boston	413,567	172	58	15.66	20.30	4.06	1.74	9.28
New Orleans	250,000	99	30	18.18	21.21	2.02	1.01	7.07
Cincinnati	225,000	115	—	17.40	17.40	1.74	—	15.66
Washington	225,000	73	19	8.22	13.70	1.37	1.37	2.74
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	24	12	20.80	12.48	8.32	8.32	4.16
Charleston	60,145	32	13	18.78	3.13	15.65	—	—
Portland	40,000	15	2	13.33	13.33	13.33	—	—
Worcester	78,222	15	8	26.66	13.33	6.66	6.66	—
Lowell	71,518	27	6	18.50	18.50	3.70	11.10	3.70
Cambridge	65,552	28	7	21.42	10.71	—	3.57	17.28
Fall River	62,647	29	13	10.35	10.35	—	6.90	3.45
Lynn	53,334	13	—	7.69	30.76	7.69	—	—
Springfield	40,731	18	3	11.11	33.33	—	—	5.55
Lawrence	40,619	28	7	35.71	17.85	—	10.71	25.00
New Bedford	37,253	19	5	15.78	15.78	5.26	5.26	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	17	0	5.88	—	—	—	5.88
Brockton	28,813	—	—	—	—	—	—	—
Chelsea	28,167	5	1	—	—	—	—	—
Haverhill	26,058	7	2	28.46	14.28	—	14.28	14.28
Taunton	25,170	—	—	—	—	—	—	—
Gloucester	24,263	8	3	25.00	12.50	12.50	12.50	—
Newton	21,553	—	—	—	—	—	—	—
Malden	19,774	7	—	14.28	42.84	—	—	—
Fitchburg	17,534	5	—	—	40.00	—	—	—
Waltham	17,332	4	1	—	—	—	—	—
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	4	1	5.00	—	—	—	5.00
Quincy	13,728	7	3	14.28	—	14.28	—	—

Deaths reported 1,841: under five years of age 572; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 300, consumption 307, acute lung diseases 227, diphtheria and croup 120, diarrhœal diseases 62, typhoid fever 57, malarial fevers 22, scarlet fever 18, cerebro-spinal meningitis 9, whooping cough 9, erysipelas 2, measles 1.

From malarial fevers, New York and New Orleans 7 each, Philadelphia 4, Baltimore 3, Charleston 1. From scarlet fever, Philadelphia 9, New York 4, Baltimore 3, Boston and Cambridge 1 each. From cerebro-spinal meningitis, New York, Washington and Worcester 2 each, Philadelphia, Springfield, and Malden 1 each. From whooping-cough, New York 6, Baltimore, New Orleans and New Bedford 1 each. From erysipelas, New York 2. From measles, Philadelphia 1.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,555,406, for the week ending October 5th, the death-rate was 17.6: deaths reported 3,219: infants under one year of age 912; acute diseases of the respiratory organs (London) — diarrhœal diseases 147, diphtheria 63, fever 62, scarlet fever 52, whooping-cough 45, measles 34.

The death-rates ranged from 10.7 in Leicester to 25.8 in Manchester: Birmingham 13.2, Bradford 18.2, Hull 20.8, Leeds 18.1, Liverpool 19.2, London 16.6, Newcastle-on-Tyne 25.3, Nottingham 14.9, Sheffield 19.5, Sunderland 25.7. Wolverhampton 24.0.

In Edinburgh 17.8, Glasgow 20.5, Dublin 26.2.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,555,406, for the week ending October 19th, the death-rate was 18.7. Deaths reported 3,433: infants under one year of age numbered 837; acute diseases of the respiratory organs (London) 300, scarlet fever 98, diarrhœa 83, measles 64, whooping-cough 59, diphtheria 57, fever 53,

The death-rates ranged from 13.2 in Derby to 31.4 in Plymouth: Birmingham 17.1, Hull 25.1, Leeds 24.2, Leicester 13.5, Liverpool 21.5, London 16.9, Manchester 22.0, Nottingham 14.5, Sheffield 21.4, Sunderland 23.7.

In Edinburgh 19.2, Glasgow 23.2, Dublin 26.5.

The meteorological record for the week ending Nov. 2, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending Saturday, Nov. 2, 1889.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.		Velocity of Wind.		State of Weather.[1]		Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.		8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ..27	29.95	52.0	54.0	49.0	77		100	88.0	S.E.	N.E.	6	18	O.	R.	6.40	.50
Monday, ..28	29.74	56.0	60.0	52.0	88		82	85.0	S.	S.	6	3	O.	O.	5.00	.40
Tuesday, ..29	29.99	44.0	47.0	40.0	93		88	90.0	N.	N.	12	12	R.	O.	5.10	.04
Wednes. ..30	30.16	42.0	46.0	39.0	76		71	74.0	N.	N.	10	5	O.	O.	.0	.0
Thursday, 31	30.19	44.0	47.0	42.0	81		72	76.0	W.	S.E.	6	2	O.	O.	.0	.0
Friday, ... 1	30.22	48.0	52.0	44.0	100		87	94.0	N.E.	S.W.	4	6	F.	O.	2.30	.15
Saturday, . 2	30.19	54.0	60.0	47.0	90		79	84.0	0.	S.	0	13	F.	O.	.25	T.
Mean for Week.	30.06		51.0	45.0				84.0							19.45	1.09

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 2, 1889, TO NOVEMBER 8, 1889.

Leave of absence for one month is granted Captain R. W. JOHNSON, assistant surgeon, to take effect on or about November 10th, proximo. Par. 4, S. O. 110, Department of Arizona, Los Angeles, Cal., October 29, 1889.

By direction of the Secretary of War, leave of absence for two months on account of sickness, with permission to leave the Division of the Missouri, is granted Captain JUNIUS F. POWELL, assistant surgeon. Par. 2, S. O. 258, A. G. O., Washington, November 5, 1889.

First Lieutenant F. J. IVES, assistant surgeon U. S. Army, is granted two months leave of absence. Par. 3, S. O. 256, A. G. O., November 2, 1889.

By direction of the Secretary of War, Major ROBERT M. O'REILLY, surgeon, will at the expiration of his present leave of absence, proceed to Fort Logan, Colorado, and report in person to the commanding officer of that post for duty. Par. 6, S. O. 256, A. G. O., November 2, 1889.

Captain JAMES C. MERRILL, assistant surgeon, is relieved from duty at Frankford Arsenal, Pa., and ordered to duty at Fort Reno, Indian Ty. Par. 6, S. O. 256, A. G. O., November 2, 1889.

Captain CHARLES S. BLACK, assistant surgeon, is relieved from duty at Fort Sidney, Nebraska, to take effect upon the expiration of his present leave of absence, and will report in person to the commanding officer Fort Du Chesne, Utah. Par. 6, S. O. 256, A. G. O., Washington, November 2, 1889.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING NOVEMBER 9, 1889.

Surgeon B. F. MACKIE, and assistant surgeon, GEORGE MC C. PICKRELL, detached from the U. S. S. "Ossipee," and placed on waiting orders.

SOCIETY NOTICES.

GYNECOLOGICAL SOCIETY OF BOSTON. — The 206th Regular Meeting of the Society will be held at No. 19 Boylston Place, on Thursday, November 14, 1889, at 4 o'clock, P. M. Business: Balloting for Robert Brooks Popham, L.R.C.P. and S., etc. (Corresponding Membership). The meeting will be devoted to contributions in memory of the late Dr. L. F. Warner, among which will be "A Brief Memorial Tribute to our Deceased Corporate Fellow, L. F. Warner, M.D.," by Henry M. Field, M.D.

S. N. NELSON, M.D., *Secretary*, 18 Beach St., Revere, Mass.
W. SYMINGTON BROWN, M.D., *President*.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — The Section for Clinical Medicine, Pathology and Hygiene, will meet at 19 Boylston Place, on Wednesday, November 20th, at 7.45 o'clock.

Dr. H. J. Barnes, will read a paper on the question, "Can the Quality of the Water Supplied to the Citizens of Boston be Improved?"

By invitation, Mr. Horace S. Woodbury of the Hygeia Sparkling Distilled Water Company, of New York, will exhibit and explain the Hygeia Distilled Water, now extensively used for pharmaceutical purposes, in the case of the sick, and in delicate surgical operations.

Mr. H. H. Thomas, of the New England Phonograph Company, will exhibit the Improved Edison Phonograph and Graphophone, and demonstrate their usefulness as the means of clinical observation and permanent record in the treatment of disease.

Refreshments after the meeting.

ALBERT N. BLODGETT, *Secretary*, 138 Boylston St.
A. L. MASON, M.D., *Chairman*.

APPOINTMENT.

Dr. Wm. B. Hills, has been appointed Associate Professor of Chemistry in the Harvard Medical School.

OBITUARY. NATHAN S. BABBITT, M.D.

Dr. Nathan S. Babbitt, of North Adams, Mass., died November 5th. Dr. Babbitt had a severe illness last summer, and though he rallied from it, the effects remained and he gradually declined until death ended his sufferings. He was born in Hancock, August 30, 1812, and was a son of Dr. Snell Babbitt. While he was very young his parents removed to Adams, and in the Adams Academy he received the rudiments of his education. After graduating from the academy he studied medicine for a year with Dr. H. M. Wells, of Windsor, and after some further study with his father, he entered the Berkshire Medical Academy, at Pittsfield, from which he was graduated in 1833. His diploma was given him by Williams College, and the same institution soon after conferred upon him the degree of A.M. He began practicing in Adams, where he remained until 1846, when he removed to North Adams, where he has since resided. In 1862 he was elected a representative from his district, and served in the Legislature one term. He was a member of the State, the Berkshire County, and the North Berkshire Medical Associations, and was particularly interested in the County Society. In his profession he was a skilful and successful practitioner and had a large practice.

BOOKS AND PAMPHLETS RECEIVED.

Cases of Ocular Paralysis. By Alvin A. Hubbell, M.D. Reprint. 1889.

The Annual Statistics of Manufactures, 1886, 1887. Public Document, Boston, 1889.

Urinary Calculus and Lithotomy. By Thomas W. Kay, M.D., Scranton, Pa. Reprint. 1889.

Studies in Intestinal Surgery. By Wm. B. Van Lennep, A. M., M.D., Philadelphia, Pa. Reprint. 1889.

The St. Louis Hygienic College of Physicians and Surgeons. Announcement of the Third Collegiate Year. 1889, 1890.

Transactions of the New Hampshire Medical Society at the Ninety-eighth Anniversary, held at Concord, June 17 and 18, 1889.

Diseases of the Eye: A Practical Treatise for Students of Ophthalmology. By George E. Berry, M.B., F.R C.S., Edinburgh, etc. With colored illustrations from original drawings. Philadelphia: Lea Brothers & Co. 1889.

Second Series, complete in twelve parts. Photographic Illustrations of Skin Diseases: An atlas and text-book combined. By George Henry Fox, A.M., M.D., Clinical Professor of diseases of the skin, College of Physicians and Surgeons, New York, etc. Hand-colored plates; nearly one hundred cases from life. Parts 9 and 10. New York: E. B. Treat. 1889.

Harvard University Library

Original Articles.

VARIOLA AND VARICELLA.[1]

BY E. H. MCCOLLOM, M.D., BOSTON.

THE importance of an early and positive differential diagnosis in these diseases, and the fact that in cases of variola proper precautions may be taken, and that fear and excitement may be quieted in cases of varicella, is my apology for bringing this somewhat trite subject before the Society. The diagnosis of a severe attack of variola in an unvaccinated person presents difficulties only in the first twenty-four hours of the eruption. A mild case of varicella in a child with a thin and delicate skin is very easily recognized. It is stated by some of the authorities that varicella is an infantile disease, and that it is neither preceded by nor attended with any marked constitutional disturbance. The truth of this statement does not bear the test of experience as the report of the following cases will prove. An attack of modified small-pox is a comparatively trivial affair, so far as the physical suffering of the individual who has the disease is concerned, but it may be a serious matter to all unvaccinated persons with whom he may come in contact. Because of the mild character of the disease, the difficulty of a correct diagnosis is very much increased. The term varioloid, too, is calculated to do much harm, not only among the laity, but also among physicians. This word should be dropped from the nomenclature, and the term "modified small-pox" substituted. This disease is not like variola, as the word varioloid signifies, but it is variola of a mild type and modified by vaccination. It is surprising how prevalent the idea is that while small-pox is contagious, varioloid, as it is called, is not particularly so.

In common with all acute diseases a case of modified or unmodified small-pox always commences with a greater or less amount of constitutional disturbance, but frequently in the modified form this is so slight as not to attract the attention of the patient. The same can be said of varicella, although, as a rule, the prodromic stage is shorter. The headache, pain in the back, chills and fever are nearly the same in each of these diseases — differing only in severity and duration. In young children convulsions may be present, although this is not common in varicella, but is quite common in variola. As there is nothing characteristic in the prodromata of these diseases, it is a self-evident fact that a diagnosis cannot be made before the appearance of the eruption. It is claimed by some observers that the pain in the back in variola is so peculiar in its nature and situation that the disease can be detected by this symptom alone. This, however, is purely fanciful and is of no practical use. In regard to the situation of the eruption there is no marked difference between the diseases. The fauces, the genitals, the palmar surface of the hands and the plantar surface of the feet are attacked alike in each disease, although the throat, the palms and the soles are not invaded so frequently or to such an extent in varicella as in variola. As there is nothing characteristic in the constitutional disturbance, as there is no marked difference in the parts of the body invaded, the only sure guide to a correct diagnosis is the appearance of the eruption and its sensation to the touch. In varicella the papular stage is very short, and it is very rarely the case that this stage is seen; but that there is a distinctly papular stage there can be no doubt. In a person with a thick, dry skin this papular stage frequently gives rise to an error in diagnosis. The vesicles in varicella are not full and round as in variola, but frequently have a shrivelled appearance, rupture easily, and, when ruptured, empty themselves completely. The base of the vesicle, after rupture, frequently transudes a very little bloody serum. There is no induration, as a rule, about a typical vesicle of varicella, but in a thick skinned individual a certain amount of thickening, resembling induration, may be found. Great variation in the size of the vesicle is also a marked characteristic of varicella in distinction from variola. When the eruption begins to dry, this process commences in the centre of the vesicle and causes an appearance which somewhat resembles umbilication, but which is entirely different from the umbilication of the small-pox vesicle. The appearance and course of the eruption in the palms and on the soles is very different in the two diseases. In varicella the vesicles disappear by the process of absorption or by rupture, while in variola, hard, firm disks are formed, which are very gradually removed by disintegration of the integument covering them.

In variola the papular stage is much more marked and of much longer duration than in varicella, lasting from one to three days. At the end of this time a small vesicle, with a minute central depression, appears at the apex of the papule. This central depression or umbilication is pathognomonic of the disease and is never absent. The vesicles now increase in size, are quite firm, filled with a milky fluid, are extremely difficult to rupture, when broken do not empty themselves completely, and are surrounded by a certain amount of induration. At the end of the fourth or fifth day the vesicles are globular in shape, and have lost the umbilicated appearance, because the pressure of the fluid in them has ruptured the tissue which bound down the centre. The next stage is the pustular, which is ended by rupture of the pustule and the formation of a yellow crust, surrounded by a wall of induration, entirely different in appearance from the black crusts seen in varicella. In small-pox, modified by vaccination, a portion of the eruption frequently aborts, that is to say, it does not pass beyond the papular stage, but disappears by absorption.

No one who has seen much of these diseases can, for a moment, doubt that they are caused by two entirely different poisons. Varicella never gives rise to variola; neither does small-pox ever cause chicken-pox. A few cases of varicella, in which the constitutional disturbance was marked and the eruption very abundant, will now be reported.

CASE I. A. B., a boy twelve years of age, with a history of an illness of two days, headache, pain in the back, nausea and vomiting. When he was seen he was found in bed. Tongue very much coated, pulse 100. The body, the face, the mucous membrane and the palms of the hands were covered with an eruption of vesicles and pustules. On the face the eruption had passed through the vesicular stage and was disappearing. On the body the vesicles ruptured easily, or in other words, the walls of the vesicles were quite thin. No induration about the eruption could be felt.

CASE II. J. K., twenty-four years of age. Three days previous complained of headache, pain in the

[1] Read before the Boston Society for Medical Observation, June 3, 1889.

back and nausea. The eruption was very copious. The vesicles were quite large, and were easily broken. A few pustules could be seen, which were surrounded by a slight amount of induration.

CASE III. E. M., twenty-three years of age. This patient had marked constitutional disturbance. The tongue was heavily coated, pulse 100. He was completely covered with a vesicular eruption, which in some places had commenced to dry. The eruption on the face was so copious that there was some œdema of the eyelids. The tongue, as well as the fauces, was completely studded with the eruption. On the face the vesicles did not rupture very easily; on the back and on the thighs the reverse was true. No induration could be felt. There was marked difference in the size of the vesicles. A few days after being seen, it was incidentally learned that for one or two nights the patient was quite delirious.

CASE IV. E. E., this case very much resembles the previous one, except that there was no delirium. The pain in the back was a much more prominent symptom.

CASE V. M. M., age fourteen years. The only point of interest is the great amount of constitutional disturbance manifested by headache, pain in the back and nausea.

CASE VI. A. N. This patient was an infant one year old. The commencement of the attack was ushered in by a severe and protracted convulsion.

CASE VII. W. M. O., twenty-two years of age. There was marked constitutional disturbance. There could be no doubt about the nature of the disease from the appearance of the eruption.

CASE VIII. A. W., thirty-four years of age. This case is of interest on account of the great amount of constitutional disturbance which continued for two days previous to the appearance of the eruption.

CASE IX. E. B., a boy four years old, was taken suddenly with headache, nausea and vomiting. At the end of twelve hours a rash appeared on the body, face and neck resembling, as described by the attendant, the eruption of scarlet fever. The temperature was high, the tongue red and the constitutional disturbance marked. Twenty-four hours after the appearance of the rash, a vesicular eruption appeared. This eruption was very copious, even in some places confluent. The fauces were also invaded to a very considerable extent. When the patient was seen, which was about thirty-six hours after the appearance of the vesicular eruption, he was so sore that he could not turn in bed; the tongue was heavily coated; the pulse and respiration very much increased in frequency. In some places there seemed to be a slight amount of induration about the vesicles, which, however, ruptured very easily. In quite a number of places between the vesicles a fading red rash could be seen, but this was not distinct enough to enable any one to form an opinion regarding its nature. It was perfectly evident that this was a severe case of varicella complicated, possibly, with scarlet fever. At the end of three or four weeks, however, as the child went through the regular process of desquamation of scarlet fever, there could be no doubt regarding the diseases in this case.

The preceding nine cases have been reported somewhat at length in order to show that the constitutional disturbance may be more marked, that the eruption may be more abundant, and that the general severity of the disease may be greater in varicella than in modified small-pox.

The following nine cases are cases of modified small-pox in which the constitutional disturbance was very slight, the amount of eruption small, and the diagnosis extremely difficult:

CASE I. A. B. This patient was a girl eighteen years old; had been vaccinated in infancy. There was no small-pox in Boston at the time she was taken ill. No history of constitutional disturbance. When the patient was seen she stated that two days previous to the visit she noticed a slight eruption on her face. There were in all about twenty-five papulo-vesicular spots of eruption very generally distributed over the entire surface of the body. The patient was sent to the small-pox hospital, much against her wishes. Every person in the immediate vicinity was vaccinated. As this case occurred in a crowded tenement house, it is easy to see what a nidus this case would have formed if it had not been recognized.

CASE II. J. G. This patient was a man twenty-eight years of age; vaccinated in infancy. He stated that four days previous to the time of visit he noticed an eruption on his face and a few spots on his hands. He positively denied having had any headache, pain in the back, nausea or vomiting. There was no indication of any constitutional disturbance. The patient was somewhat surprised when he was told that he had small-pox.

CASE III. J. K. Vaccinated in infancy; thirty years of age. Three days before this man was seen, he stated that he noticed a slight eruption on his face and body, but did not give himself any uneasiness about it. He also said that he was not ill; had had no nausea, no vomiting, no pain in the back. The eruption was perfectly characteristic.

CASE IV. E. C., forty years of age; vaccinated in infancy. No history of any of the prodromata. The eruption was not very copious. There was very little constitutional disturbance at the time of visit.

CASE V. T. C., fifty-five years of age; vaccinated in infancy. This patient was a sailor. When he was seen he had been in Boston about six days. He stated that he noticed the eruption about five days previous to the visit. There was no constitutional disturbance when this man was seen, and no history of any. From this one case, five cases of variola could be directly traced.

CASE VI. W. F. F., twenty-four years of age; vaccinated in infancy. This patient had a slight eruption on his face, for which he consulted a physician, not because he was ill nor because there was any discomfort from it, but because it was unsightly. There had been no headache, no pain in the back, no nausea. When seen, the man was apparently well; the eruption was characteristic.

CASE VII. T. B. This patient was a young woman who had been in this country only a short time; vaccinated in infancy. When she was seen there was absolutely no constitutional disturbance, and she denied having had any of the usual symptoms of the disease. Examination, however, revealed the existence of the firm disks in the palms and on the soles, to which allusion has been made. The reason why this patient was examined so carefully was the existence of a severe case of variola in the family of which the girl was a member. There can be no doubt that this patient contracted the disease in England, passed quarantine before the eruption appeared, and communicated a severe form of the disease to at least two individuals.

As the woman had not been ill no physician had seen her.

Case VIII. F. D. This patient was a colored man thirty-five years of age; vaccinated in infancy. No constitutional disturbance. He communicated a severe form of the disease to his wife, and also to three or four other persons.

Case IX. J. T., twenty-four years of age; vaccinated in infancy. This woman had a few of the firm, hard disks in the palms, and a few slight recent scars could be seen on the face and body. The most careful and persistent questioning, not only of the patient herself, but also of the other members of the family, failed to elicit any history of constitutional disturbance. The eruption had been so slight that it had not attracted the attention of any one. As in one of the preceding cases this mild and unrecognized attack of modified variola was the origin of a severe case of unmodified small-pox in a child with whom the patient was brought in immediate contact.

Many more cases, not only of varicella with marked constitutional disturbance, but also of modified small-pox, without illness, sufficient to attract the patient's attention, could be reported. But enough has been said to show:

(1) That varicella is not necessarily an infantile disease.

(2) That it is frequently attended with marked constitutional disturbance.

(3) That small-pox in the vaccinated is not always accompanied with marked disturbance of the system.

(4) That the history of the case and the general symptoms are of no assistance in forming a diagnosis, but that the appearance of the eruption and its sensation to the touch are the only sure guides.

THE ABSCESSES OF HIP DISEASE, THEIR PREVENTION AND TREATMENT.[1]

BY ROBERT W. LOVETT, M.D., BOSTON, AND
JOEL E. GOLDTHWAIT,
Formerly House Surgeon at the Boston Children's Hospital.

The treatment of the abscesses of hip disease is a question which has been widely discussed, and one upon which diametrically opposed views have been held. No figures bearing upon the relative value of the various treatments have yet been brought forward, and the debate so far has been largely confined to the assertion of personal opinion. As a general rule, surgeons have advocated the early incision of these pus collections wherever and whenever they form. Many of the leading orthopedic surgeons in America, on the other hand, advocate very strongly letting the abscesses break of their own accord unless their character is so acute as to render operative interference necessary. Their reasons for this are: first, the possibility that the abscesses may disappear spontaneously; secondly, that the operation has no effect upon the original disease to which the abscess is only incidental; and third, that there is a risk of septic infection due to operation. At the close of a discussion at the Orthopedic Section of the New York Academy of Medicine, held in the spring of 1889, the Chairman, Dr. Gibney, remarked that however interesting the discussion had been, it had led to no positive results, and that a previous discussion in the same section had been equally fruitless; and he called the attention of the members, to the fact that the question could advance no further until some figures bearing upon the subject were brought forward.

In the hope of bringing to light some definite facts in the matter, the records of the Children's Hospital have been analyzed for the five years ending in 1888. Incidental to this investigation, such important facts were developed with regard to the conditions of the occurrence of hip abscesses that the division of treatment which relates to their prevention has assumed a much more prominent place in this paper than was originally intended.

We had for analysis several hundred cases of hip disease, which were under treatment in the surgical out-patient department of the hospital. In the five years ending 1888, 360 new cases came for treatment to the out-patient department. Of cases continued from the year 1883, there were certainly 50, giving at least 400 cases which were under treatment in these five years. Taking from this number the 80 new cases which came in 1888, in whom abscesses perhaps had not had time to develop; we had 320 cases under treatment at the out-patient department from 1883 to 1887 inclusive.

The operative treatment of hip abscesses, has been pursued at the hospital, in these years, to the exclusion of every other method, so that every abscess occurring in these cases has been admitted to the hospital and operated upon. There have not been more than a dozen exceptions to this rule in these five years: so that the figures, whatever they may be, are thoroughly representative of the operative treatment. Aspiration of the contents of the abscesses has at times been tried, sometimes followed by the injection of iodoform and similar substances. In every case of this sort it has been ultimately necessary to open the abscess by a free incision.

In the five years from 1884 to 1888, inclusive, there were only 70 abscesses opened in the hospital; and as all abscesses were opened as soon as they become superficial enough to give evidence of fluctuation, this number represents approximately the total number of abscesses occurring in the 320 cases treated in the out-patient department. The calculation cannot, of course, be more than an approximate one. A certain number of the 320 cases disappeared from view without being under treatment for any length of time; but these were few, and, as a rule, not the worst class of cases for the reason that there is no other large orthopedic clinic in Boston, and the cases which progress badly are almost sure to come to the Children's Hospital. The cases which are lost sight of are generally those in which the symptoms quickly subside, or in the long chronic cases where the symptoms never reach any very great severity. It is not, as it is in New York, for instance, where the cases shift from one clinic to another. In Boston they must come to the Children's Hospital, or go untreated, so that the error arising from this source is necessarily a small one.

So far as the writers have been able to judge, the figures represent *very fairly* the total number of abscesses occurring in the 320 cases of hip disease under treatment in the five years. Apparently, it is from a similar class of cases that the statistics bearing on the frequency of hip abscesses collected by Gibney, Marsh, and the Clinical Society have been taken: so that it is perfectly proper to compare the percentage of abscess occurring in this series of cases with the statistics of

[1] Read before the American Orthopedic Association at Boston, September 17, 1889.

those writers. In 320 cases, then, we had in the neighborhood of 75 abscesses, making all allowances for error, which is a percentage of 23.

Comparing, then, this percentage of 23 with the other figures relating to the frequency of hip abscesses, the writers were very much surprised to find that it was very much smaller than any previously reported group of cases. In the series of cases reported by the Clinical Society's Committee, in 1880, of 401 cases, 69% developed abscesses in the course of a few years. Mr. Marsh, analyzing the more recent cases from the Alexandria Hospital (those from 1880), calculated that 50% of all the cases developed abscesses before admission, or during the course of the disease. The diminished percentage, which was so much smaller than the Clinical Society's series, he attributed to the improved methods of treatment; and, he added, "My own estimate, from what I have seen in the hospital and elsewhere, is that the formation of an abscess may be averted by early treatment in at least 80% of the total number of cases."

Of the 80 cases of cured hip disease reported by Gibney in 1878, where the expectant treatment had been pursued, 48 cases, or 60%, had abscesses; and in the discussion following the reading of that paper, Dr. Yale stated, as the result of his own experience and that of others, that about 50% of all cases of hip disease develop abscesses.

The out-patient cases in the Children's Hospital series have been under treatment continuously, reporting once a month at the hospital. The method of treatment has been almost entirely by the use of the long-traction splint, with crutches, and a high shoe on the well foot.

In all cases where deformity occurs in the leg, as soon as flexion or adduction or abduction reaches any noticeable degree, the patient is at once admitted to the hospital, and the deformity reduced by means of traction in the line of malposition, while the patient lies in bed, secured to a bed frame, with the leg elevated or abducted or adducted, as the case may be.[2]

In the same way children, whose joints become acutely sensitive, are not allowed to go about on crutches, but are at once sent to bed until the joint quiets down. Formerly the cases were allowed to go about till the deformity became so great that the splint could not be comfortably worn, and the proportion of abscesses at that time was larger than it is now.

The time required in bed for this reduction of the deformity is rarely more than a few weeks, and only a few days in the milder cases. Correction of the position of the limbs under ether is only undertaken in very exceptional cases. It is to this careful correction of deformity, as soon as it occurs, and to the immediate attention paid to any acutely sensitive condition of the joint, that the writers would attribute this exceptionally small percentage of abscesses.

Leaving for a while that side of the question which relates to the prevention of hip abscess, and coming to the analysis of the 70 cases operated on at the hospital between the years 1884 and 1888 inclusive, only 55 of these proved suitable for analysis. The others were rejected because the records were imperfect, or because the information about the patients was scanty; and all of these rejected cases were those of the earlier years (1883 and 1884). The cases for analysis were not selected upon any basis, except that of being well recorded, and no cases in the last three years were omitted. In addition to these 55 cases we have added 8 cases of hip abscess from the House of the Good Samaritan, which were not picked, and which were similar to the Children's Hospital cases in every way.

The time of the occurrence of these abscesses in the history of the disease proved to be a matter of some practical interest. In 59% of all the cases, it occurred within one year of the beginning of the disease. Of the remainder, it occurred in 13 cases within two years; in 9 cases, in three to five years; and once each in seven and nine years. In 26 of the cases (41%) the abscesses appeared before the patients came under treatment, while four more appeared within two months after the beginning of treatment: so that 44% of the total number of abscesses occurred either before any treatment was begun, or within the next two months. In 37 cases the abscess came on while the patients were under treatment, and it is worth while to analyze these cases very carefully. The abscesses came on under the use of a Taylor traction splint 22 times; with the use of a Thomas splint, four times; with the use of a posterior wire fixation splint (the Cabot frame), six times; and under miscellaneous treatment might be grouped four cases, — one bed extension, one Sayre short splint, one plaster bandage, one high shoe and crutches. Analyzing the 22 cases, where it came on in the course of treatment by a long traction splint, in nine cases it was stated in the records that the treatment was markedly inefficient on account of the drunkenness or carelessness of the parents. In the remaining 13 cases, where the abscesses came on under treatment by the Taylor splint, the care of the patient at home was good, and the treatment efficient, so far as the out-patient surgeons could judge, except in three instances, where the splints were discarded at home, and the abscesses followed; so that really in only 10 of these 22 cases did the abscesses come on under what could be considered efficient treatment by this method. The groups of cases where abscesses occurred with the use of a Thomas or Cabot splint are too small for analysis. In the great majority of all cases, where the abscesses occurred under treatment, it came on in from six to twelve months after the application of the splint.

It has already been stated that the operative treatment has been pursued in all cases, and the question of the risk of the operation is, of course, one of very great interest. The technique of the operation has been perfectly simple. The abscess has been freely incised; drained by counter-openings, if necessary; and the cavity has been curetted, and thoroughly irrigated with a strong corrosive solution. The wound has either been loosely packed with iodoform gauze, or drained by a tube which has remained in only a short time. Antiseptic dressings have been applied for weeks after operation, and only when the sinuses have been reduced to small openings have open dressings been applied.

In the 63 cases there was no case of anything approaching septicæmia. In feeble children the temperature rose slightly on the day after operation, from reaction; but it always fell again, and was never of a character to give anxiety, with the exception of one patient who died of tubercular meningitis within ten

[2] The child is fixed to a bed frame so that motion is impossible. The child cannot sit up or turn over, and when lifted, is lifted on the frame, as on a *gouttiere de Bonnet*, or wire cuirass. Fixation is practically as complete as in the *gouttiere de Bonnet* (wire cuirass), with the addition that traction in the line of the deformity is possible.

days after operation. This is the only case in the 63 where death could possibly be attributed to the operative procedure, and in no other case did death occur within three months; and generally in the fatal cases it was only after a lapse of one or two years. As a rule, the operation was followed by a decided improvement in the general condition of the patient and by an improvement in the joint symptoms.

Of these 63 cases, 16 are dead and 4 are dying, while in 7 cases the end result is not known. This is a mortality-rate of approximately 40% which is exceedingly high in comparison with the death-rate by suppurative hip disease in general. But a comparison of these cases with such groups as the Alexandria Hospital series is unfair, because the percentage of abscesses to the whole number of cases of hip disease is so widely different in the two groups. Here the abscesses were only 23% of all the cases; in the earlier Alexandria group they formed 70% of all the cases.

The treatment pursued in this series has eliminated abscess in a large number of cases, and confined its appearance, as a rule, to a small percentage of cases where the disease is of such intrinsic severity that suppuration is inevitable; and necessarily the percentage of death in such cases must be a high one. It would, therefore, be misleading to compare the figures of the death-rate with those of Gibney, Marsh, Billroth or Cazin.

Of the 16 fatal cases, 4 died of tubercular meningitis, 2 of phthisis, 3 of amyloid degeneration of the viscera, 3 of exhaustion and prolonged suppuration, and one each from excision and enteritis many months after operation. Of the 4 cases that are classed as dying, 3 have advanced amyloid degeneration of the viscera, and one is hopelessly exhausted, with but little prospect of relief even by amputation. In 7 cases the end result is not known. This gives a mortality of nearly 40%, in cases which have only been under observation but a few years, a majority of them less than three.

It may then be said of the operation for abscesses in hip disease, that it is not attended with the risk of septicæmia which is sometimes attributed to it, and that it does not prevent amyloid degeneration from taking place.

The present condition of the diseased limb is not known in 7 of the patients, who may be alive or dead. In the 16 cases which died, with one exception, the sinuses were all open at the time of death. In the 43 cases where the present condition of the patient is accurately known the abscess wound is closed in 20, and one or more sinuses are still open in 23. Of the cases where the sinuses are still open, in 5 a year has passed since the operation, 10 are open at the end of two years, 7 at the end of three years, and one at the end of four years. In the cases where the sinus is closed, the time of closure is, of course, of much interest. In the 20 cases, 10 closed within a year after operation and in 6 between one and two years. In three of the remaining it closed at the end of two years, and in one case at the end of four years. In only one case did it close within six months of operation, and in this case within a month. Secondary abscesses, very superficial, occurring in the cicatrix of the operation, have occurred in one or two cases. It must, therefore, not be expected that the sinuses will close immediately after operation; and in most cases where the closure is to occur, it takes place within a year or eighteen months of operation.

It is very difficult to sum up a paper which is at best only an imperfect summary of an important series of cases. From the figures that have been presented it seems fair to conclude that the preventive treatment of hip abscesses is an exceedingly important matter, and that by the confinement of the patient to bed when symptoms of deformity or joint tenderness arise under efficient treatment the abscesses may be averted in a large proportion of all the cases. But when this smaller proportion of abscesses has occurred in them, the mortality per cent. is exceedingly high, and the prognostic outlook very much more serious than in suppurating hip disease in general. Operation does not seem to be attended with the risk of septicæmia, nor does it prevent the occurrence of tubercular meningitis or amyloid degeneration; and finally it may be stated that thorough operation is followed, in a fair proportion of all cases, by the speedy closure of the abscesses, a closure which remains permanent.

SPASTIC TORTICOLLIS APPARENTLY DUE TO FAULTY POSITION OF THE EYES, AND CURED BY TENOTOMY.[1]

BY O. F. WADSWORTH, M.D.

Carl F., a bright, intelligent boy, nearly fourteen years old, of good size and with well-shaped head, was brought to me June 5, 1887, because of a deformity which was said to have commenced in infancy and to have been becoming more pronounced up to that time. On the supposition that he had wry-neck and lateral spinal curvature, he had been first taken to Dr. E. H. Bradford. Dr. Bradford found no permanent contraction of the muscles of the neck, and that, while there was a well-marked convexity of the spine toward the left, the vertebræ were apparently normal. He also observed that the eyes were not directed properly, and advised that the boy be taken to me.

The brief history of the case, obtained mainly from the boy's father, was as follows: In early infancy it was noticed that the boy's eyes were "wild" and that the left eye rolled up; at least as early as when he began to walk the head was held tipped to the right, and as he grew older the right shoulder dropped. Of late years the eyes had not been so "wild," but appeared more so when he was excited. He had never had double vision. The tipping of the head and dropping of the shoulders had gradually grown worse, and of late the remarks of his schoolmates on his figure had caused him much annoyance.

The boy was well grown, his muscular system well developed. He sat or stood with his head tipped to the right, his face turned a little to the right and inclined considerably forward, his right shoulder considerably lower than the left, the spine laterally curved with convexity to the left. (Fig. 1.) In walking the left shoulder was carried a little in front. The excursion of each eye was good in all directions. In ordinary positions, in fixation for near or distance, the left eye stood about 1‴ higher than the other. Only when the eyes were turned much down and to the left, while at the same time the head was inclined forward and to the right, and rotated a little to the right, did he apparently get binocular fixation; even in this position the left eye rolled up when it was covered, and on being uncovered again did not instantly come back

[1] Read before the American Ophthalmological Society.

to fixation. In this position it was impossible to use the stereoscope; in other positions he could see the two images at once (L. and F. for instance), but could not unite them, the images were homonymous, the right always higher. He also apparently fixed binocularly with his head nearly in the normal position when prisms amounting together to 20° – 25° were placed before the eyes, base down L., base up R. — V., R. or L., $\frac{1}{4}\frac{2}{5}$. Fundus normal in both eyes.

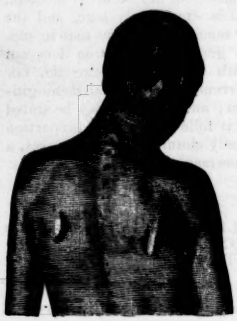


FIG. 1.

On June 10th further attempts were made to obtain stereoscopic vision without avail. L. and F. could be brought to a level with vertical prisms amounting to 18°, but not united. V., under homatropine, R. or L. with + .75, $\frac{1}{2}\frac{4}{5}$ +.

July 14th, with cocaine, the superior rectus tendon of the left eye was partially divided, but the boy became very unruly and the operation could not be completed. Although I thought a fairly wide division had been made there was no perceptible effect in the position of the eye.

August 12th, another attempt at division of the same tendon was made, with cocaine, the boy being unwilling to take ether, and assuring me that he would be quiet. This time he became unruly still earlier, and the operation was again abandoned.

October 22d, the boy's condition was the same as in June. Under ether, the left superior rectus tendon, which was large and broad, was fully divided.



FIG. 2.

November 17th. The boy and his father report that since the last operation, he has been much straighter, and is still improving. Both his head and trunk have a very much better position. The left eye now turns down as far as the right, not quite so far up. The eyes usually appear straight, but when the left is covered, in most positions at least, the right seems to move downward a little to fix, and *vice versa*. He cannot unite in the stereoscope.

December 9th, 1888. He has grown much during the past year. His figure is now almost normal, but the right shoulder is still slightly lower than the left, and the head is very slightly tipped. (Fig. 2.) He has never had double vision or asthenopia. The left eye turns as far down as the right, not quite so far up, as far laterally. V., R. with + .50 cyl. $\frac{1}{1}\frac{3}{2}$; L. with + .50 $\frac{1}{1}\frac{3}{2}$. When he fixes in the median line, in or a little below the horizontal plane, on covering the right eye it appears to turn upward a very little, and when the left eye is afterward covered in turn, to turn downward again to fix; if the left eye is covered first, the right does not appear to change. Double images of a flame at 14′ are not perceived even with the help of red glass and prisms. In the stereoscope L. and F. are united with difficulty.

It would seem *prima facie* an almost incredible supposition, that with never a sign of double vision or asthenopia, a faulty position of the eyes should cause so pronounced and persistent a distortion as in this case, particularly when the distortion did not enable the individual to obtain binocular fixation for the vastly greater part of the time. Yet the fact that the distortion did to all appearance render binocular fixation possible in one position of the object led me, in the absence of other discoverable cause, to think this supposition probable. It is within the bounds of possibility, also, that in earlier life the twisted posture gave binocular fixation over a wider area, and therefore for a larger part of the time, and that the posture once become habitual occasional binocular fixation only was needed to maintain it in permanency. The rapid improvement that took place after tenotomy appears to sufficiently confirm the correctness of the theory.

It has been suggested to me that the vigorous growth of the boy during the year after the tenotomy was one, perhaps, the most active factor in the change that occurred. I should be far from denying that the growth had been a helpful influence. To suppose it more than a subsidiary one, however, is to neglect the consideration that during the four and a half months that elapsed between the time the boy was first seen and the tenotomy there was no discoverable improvement, while during the first month after tenotomy the improvement was very marked.

The objection might also be made that it was not the actual changed relation of the eyes, but the moral effect of the operation that produced the desired result. But certainly the incomplete operations under cocaine, which did not alter the position of the eyes, should have had even greater moral effect than the operation under ether, and yet they left the condition absolutely unchanged.

A CASE OF HÆMORRHAGIC PANCREATITIS.

REPORTED BY WM. SIDNEY THAYER, M.D.
Formerly House-Officer at the Massachusetts General Hospital.

SINCE the appearance last winter, of Dr. R. H. Fitz's paper on Acute Pancreatitis, no further cases of this nature have, I believe, been reported. The real and practical importance of this subject, so strongly set forth by that most valuable work, has seemed to me to make this case well worth recording.

The patient was a man sixty years of age, by trade, a designer of rubber boots. His family history was excellent. He had suffered from no serious illness but had always been unusually strong and healthy. Though not very tall, he was of large frame and rather fat, weighing, three months before his death, two hundred pounds. His habits in early life had been good, but in his later years he had indulged moderately in liquor, occasionally — "once every

month or two," according to his friends — to excess. He had never been subject to digestive troubles.

Thirteen months before his death he was seized suddenly one day, with a very severe pain in the epigastrium darting through to the back. The pain was very sharp and continuous, lasting about sixteen hours, and ceasing gradually. Four months later he had another similar attack, and this time his wife noticed that toward the end of the seizure and on the following day, he was jaundiced. For six or seven months after this there was no recurrence of the pain, and the patient considered himself in the best of health.

About three months before his death, however, he began to have similar attacks of pain recurring at intervals of one to two weeks. These attacks were all of a like character; very sudden in onset — "He just knew when they were coming:" — lasting usually twelve to eighteen hours, sometimes a shorter time; the pain disappearing rather gradually. Most of the attacks were attended toward the latter part, and followed on the next day, by jaundice. The pain was always in the epigastrium darting through to the back, in the left hypochondrium, and "at the extremity of the ribs on the left side" — The friends are sure that the attacks bore no relation in time or otherwise, to the taking of food. The patient, however, thinking that it might relieve him, used, at first, to force himself to vomit, but in the later attacks vomited involuntarily. The vomitus consisted chiefly of food — no hæmatemesis.

During the last month of his life, the patient complained constantly of a "choking feeling" in his throat, "as if something were sticking there and would neither go up nor down." At times, also, he had a similar feeling behind the lower part of the sternum, as if food had "stopped just about entering the stomach." During the last month the attacks of pain recurred every two or three days, and the patient, believing that they were in some way connected with his food, lived for nearly three weeks on a liquid diet. He was unable to attend to his work properly, and lost much strength, and twenty-five to thirty pounds in weight.

On June 13, 1889, he came to the out-patient department of the Massachusetts General Hospital for advice. He went back to work but the attacks continued, and on June 23d, he came to Boston. On this date, for the first time in three weeks, he ate a hearty dinner of beefsteak and potatoes.

On the morning of June 24th, at 9 A. M., he had a severe attack of pain, apparently similar to those from which he had previously suffered, and at about 3 P. M., he was admitted to the Massachusetts General Hospital, service of Dr. W. L. Richardson. At this time he was in great distress, groaning, and tossing about with pain. He placed his hand, in describing the seat of the pain, in the left hypochondrium and epigastrium, just to the left of the middle line.

Physical examination showed a man of large frame and well-nourished; marked pallor; tongue dry; pulse regular and of good strength, 120; temperature 98.8°; respiration 28; heart and lungs negative; abdomen rather full but not distended. The patient did not complain much of tenderness, though deep pressure in the left hypochondrium caused him to flinch. Pressure on the lower left ribs did not seem to increase pain.

The patient suffered considerably during the afternoon, and in the evening was given morph. sulph. gr. ¼ hypodermically, and an hour later a suppository of morphia gr. ¼, after which he fell asleep, sleeping most of the night.

The *urine* obtained shortly after entrance was rather high-colored, acid; specific gravity 1024; no albumen or sugar; indoxyl increased; sediment slight, microscopical examination showing an occasional leucocyte and bladder cell, no casts. The Rosenbach color test gave a positive result. The patient was given a liquid diet.

On the morning of June 25th, the patient did not complain of pain, but seemed rather dull and stupid, and said he felt sick. He vomited his milk once. Temperature, 98.4°; pulse, 100; respiration, 26. A slight yellowish tinge was noticed in the skin and conjunctival, and soapsuds enemata were given without result. Shortly after 3 P. M., he suddenly sat up and threw himself across the bed. When seen, about ten minutes later, he was tossing about the bed in great distress, though he seemed unable to say why. His speech was thick and indistinct; when asked if in pain, his answer could not be understood. There was marked cyanosis; skin hot, moist; pulse not to be counted at the wrist, very feeble; by auscultation, heart's action weak but regular, 160; respiration very shallow and rapid, 60–70; temperature, taken by rectum about an hour later, 105°; no orthopnœa; tendency to lie on the left side. Fine moist râles were heard in the left axilla, and a general fulness of the abdomen was noted. Stimulants were administered by the mouth, and when in a short time the patient became unable to swallow, hypodermically and by enemata. In an hour the patient became unconscious, and at 7.10 P. M., died.

An autopsy was made by Dr. R. H. Fitz, thirteen hours after death. The following extracts are taken from the record:

"Heart: right side distended with liquid and clotted blood, the latter differentiated; left side comparatively empty. . . .

"The duodenum contained a faceted gall stone about the size of a hazel nut.

"Pancreas: in length, 8 in.; longitudinal diameter of head, 1½ in.; longitudinal diameter of tail, 1½ in.; transverse diameter of head, 1½ in.; transverse diameter of tail, 1 in. Consistency soft. Surrounding fat tissue moderately infiltrated with blood, which toward the tip and along the posterior surface was in spots and streaks dried, of a reddish-brown color. Posterior surface of the pancreas adherent by easily separated adhesion to the posterior wall of the lesser omental [illegible]. Fat tissue in front of pancreas and at root of mesentery showed numerous opaque, white superficial spots, sharply defined. The pancreatic duct readily admitted a director. On longitudinal section of the gland, the color of the head was an opaque reddish gray; of the tail a greyish pink. Spots and streaks of an opaque white and others of a reddish-brown color were seen, especially at the tip. The tubules in general were indistinctly defined, but in the head, and more rarely in the tail, were apparent patches of thickened interstitial tissue. The splenic and portal veins were free from thrombi. . . .

"Gall bladder, thickened, firmly contracted, containing more than a hundred calculi, for the most part faceted and varying in size from that of a hazel nut to that of a split pea. One large, white calculus was oval, rounded and as large as the end of the middle finger

The gall bladder also contained a small quantity of viscid, opaque, yellow fluid. Mucous membrane thickened and rough.

"Common duct dilated to nearly the size of the little finger. Cystic and hepatic ducts also moderately dilated."

With regard to symptomatology few conclusions can be drawn from this case, owing to the close association of the pancreatitis, with the frequent attacks of probable biliary colic. But whatever the nature of these attacks, it is of interest that the pain was always in the region of the pancreas.

The possibility that the patient may have had previous attacks of pancreatic inflammation, is certainly suggested by the patches of apparently thickened interstitial tissue found on autopsy.

The occurrence of disseminated fat necrosis is interesting. This condition was found in more than one-third of the cases of hæmorrhagic pancreatitis tabulated by Dr. Fitz.

The case seems to me to be of peculiar interest in view of the possible etiological relation between the cholelithiasis and the pancreatitis. The probable frequent passage of gall stones and the resulting dilatation of the ducts would surely seem to afford an excellent opportunity for the entrance of any infectious agent from the intestinal canal.

While the evidence obtained during the life of the patient was not sufficient to justify a positive diagnosis, acute pancreatitis was throughout considered to be the probable condition.

REPORT ON PROGRESS IN THERAPEUTICS.[1]

BY FRANCIS H. WILLIAMS, M.D.

INCIDENTAL EFFECTS OF ANTIPYRIN.[15]

FEW of the modern antipyretics have found such a wide application as antipyrin, and scarcely any has such unpleasant or deleterious accompaniments; moreover, the cases in which its use causes dangerous symptoms are increasing in number.

Dr. Drasche has reported the results of his own observations on more than three hundred cases, and has collected the reports of its incidental effects from the current literature. It has even been found to excite fever repeatedly in a case of rheumatism in a woman of fifty-two. Not infrequently the administration of antipyrin was followed by nausea and even vomiting, more often in women than in men; this action was not a local one, as it occurred in cases in which the drug was given by the rectum. In two children moderate doses were followed by hæmatemesis, convulsions and death. The eruption caused by antipyrin is of special interest; it occurs in about ten per cent. of the cases, chiefly in typhoid and phthisis, more often after continued use, though in some cases after a brief period and in minimum doses. It has, in exceptional cases, appeared after an interval of only five minutes and half an hour. As a rule, the exanthematous eruption remains from one to three days, but may be present for a week or more; and it is quite independent of the amount given. The eruption is in the beginning chiefly local, but may spread over the whole body. It is most frequently erythematous in character, but may resemble measles, scarlet fever and urticaria, and may occur even in different forms in the same individual at various times.

A rapid fall of temperature from antipyrin is not infrequently accompanied by profuse sweating, which may continue for several hours; this, on readministration of the drug, may or may not return to a greater or less extent. In phthisis, after comparatively small doses, there may follow profuse and debilitating sweating.

In typhoid pneumonia there may also be marked lowering of the blood pressure. The temperature may sink far below normal, and, on the other hand, may rise to even a higher point than before; there may be not only profuse perspiration but even rigors, and in some instances this may culminate in collapse and cyanosis. It may cause convulsions or narcotic symptoms, such as sleepiness, hebetude and great depression. Severe coryza with abundant discharge of mucus, difficult breathing with frequent cough and expectoration, and profuse sweating may also be caused by it.

It is generally believed that antipyrin exerts no marked action on the kidneys, but slight degrees of retention, as well as incontinence, have been noticed, though quite rarely. The urine is somewhat diminished in quantity, and its specific gravity increased.

Antipyrin is certainly a drug which may excite disquieting and threatening symptoms as well as exert a toxic action, though their occurrence is exceptional. In general it may be said that weak, debiliated subjects, those with a weak heart, and children, are most apt to show susceptibility to the drug. In such patients small doses should be used at first, especially in typhoid fever and phthisis.

ANTIPYRIN AS AN ANALGESIC.

This drug has been used subcutaneously in a solution containing thirty to fifty per cent. of antipyrin. Gunther[16] found that a deep injection made at the seat of a fresh fracture enabled him to apply the first apparatus without the slightest muscular contraction. This use of antipyrin might be applied to various painful conditions. The effect appears within a minute, and lasts about six hours.

Wolff[17] attributes to antipyrin a local action over pain equal to, if not surpassing, that of morphine. In acute rheumatism, an injection, in the neighborhood of the affected joint, relieved the pain in three to five minutes, so that the patient could raise an arm, without pain, that was previously helpless. The chest pains of phthisis he saw relieved in five minutes, and permanently; and the stabbing pains of pleurisy, etc., so assuaged in a few minutes that a satisfactory examination, previously interfered with by the shallow breathing, was made possible. In muscular rheumatism, in a large series of cases, the pain disappeared after a few minutes, either not to return at all or in a much more moderate degree. In neuralgias of superficial nerves and in asthmatic attacks, the results were extremely satisfactory. According to Wolff its action follows within five minutes, and persists ten to twelve hours, if then the pain returns it is much modified.

The solution is made of fifty per cent. strength, in boiled distilled water and filtered several times. A syringeful of eight grains is given, but oftentimes one-half the quantity is sufficient. No bad effects from

[1] Concluded from page 483 of the Journal.
[15] Wiener klinische Wochenschrift, October 11, 18, 1888.
[16] Deutsch Med. Wochenschift May, 1888.
[17] Therapeutische Monatshefte, 1888, p. 279.

the antipyrin were observed, but locally the injection causes, in all cases, some burning pain, which is often intense. [A small amount of cocaine might relieve this. — Rep.]

ANTIPYRIN IN POLYURIA.

Huchard reported to the Therapeutical Society of Paris [18] that in a case of diabetes insipidus, long under observation, he had succeeded in reducing an amount of twenty-eight quarts to three quarts by the use of thirty to ninety grains of antipyrin, other drugs given as controls proved that the antipyrin was the effective agent. Again, a simple polyuria of ten quarts was reduced in five days to half that quantity.

A diabetic passing eleven quarts, after ninety grains per day, passed only three quarts, and the amount of sugar was much reduced. In the discussion, Dujardin-Beaumetz said he had found its use very satisfactory in simple polyuria, giving thirty grains per day; but in diabetes mellitus, though the amount of urine and sugar was reduced, albumin simultaneously appeared.

Eichhorst [19] saw no good results from antipyrin in diabetes mellitus, but in a case of diabetes insipidus an excretion of twenty-six pints was reduced to normal by seventy-five grains and held there.

ANTIPYRIN IN THE NASAL PASSAGES. [20]

Dr. Hinkel has employed this drug in cases of acute coryza. A solution of antipyrin, when sprayed into the nose, possesses hæmastatic properties, though inferior to cocaine. In about a four per cent. solution (sixteen grains to an ounce), it may be used upon the nasal mucous membrane with temporary relief to occlusion from engorgement of the turbinates, and with sedative effects upon irritable states, and is most effective where the element of irritation exceeds that of inflammation. It presents an advantage over cocaine in not producing local numbness and dryness, and, in the absence of the general stimulating properties of cocaine, causing sleeplessness, headache, etc. In cases, such as hay fever, in which an agent for relief is used for long periods, antiyprin, as a nasal spray, is less likely than cocaine to produce constitutional disturbance, or to lead to a "habit." Antipyrin has the disadvantage of causing more of less severe smarting, and of being unequal to the relief of severe inflammation or extreme occlusion of the nares. Combined with one-quarter to one-half per cent. of cocaine, it increases the local action of the latter, enabling it to be used in weaker solution.

PHENACETIN.

Of many reports on the use of phenacetin, one by Dr. Freidrich Müller [21] is of unusual merit. He made numerous trials of the remedy in various diseases, and found that the temperature in adults was lowered by doses of seven to eleven grains, and seldom as much as fifteen grains was used. The fall in the temperature occurred within from one to four hours, and was accompanied in most cases with perspiration, but without disagreeable sensations.

During the apyrexa, which lasted from three to five hours, the patients were quite comfortable, having a better appetite and more sleep. The rise in temperature was unaccompanied by a chill. For the patient's comfort it is desirable to avoid alternate fall and rise in the temperature. If the drug is administered continuously, the temperature rises in spite of it; after some days the system becomes habituated to the agent, and larger and larger doses are required, in fact, so large as possibly to become dangerous. He has observed marked cyanosis from ninety to one hundred and twenty grains daily. Nothing more is accomplished by phenacetin than by other antipyretics, for example, antipyrin; but it has the advantage of less unpleasant accompaniments. It is tasteless, vomiting and indigestion appear only exceptionally, ringing in the ears, or exanthematous eruptions, or signs of renal irritation were not observed. In some cases phenacetin seemed to promote diarrhœa.

Phenacetin possesses the property of quieting pain, and has been employed to relieve headache, except that connected with organic cerebral disease or uræmia. Forty-five, or even seventy-five, grains a day are required. In some neuralgic affections the pain is relieved by phenacetin, and for such purposes it seems to be in no wise inferior to antipyrin and antifebrin. It is interesting to note that phenacetin possesses practically no antiseptic qualities.

ANTIPYRETICS.

It is interesting to look back upon the recent history of various antipyretics. When salicylic acid was first used, its application was very general, but gradually it was employed in a narrower and narrower field.

Next the dihydroxyl derivitives of benzol were studied, and there appeared pyrocatechin, resorcin and hydrochinane; they were soon shown to be unsuitable as antipyretics; then the bases of the quinine group were investigated, and chinolin (1881) was made by heating quinine with alkalies. From chinolin two phenols were prepared, one of which served as the basis of kairin (1882), the other of thallin (1884). Finally, the last member of this group was prepared synthetically by Knorr, oxydimethylchinicin or antipyrin (1884).

PYRODIN. [22]

There is at present a third group of three which are derived from anilin, acetanilid or antifebrin (1886), and similar to it, phenacetin or acetphedetidin (1887), and most recently pyrodin, a mixture of which the active portion is acetylphenyldracin.

Taking the experience given in the *Centralblatt für die gesammte Therapie*, March, 1889, we are led to the conclusion that pyrodin is a very active means of reducing temperature, compared with antifebrin, it has the great disadvantage of being more toxic in its effects.

In typhoid fever it should be wholly discarded; in pneumonia, scarlet fever and measles it is not required. In tuberculosis and other chronic diseases accompanied with fever, it has marked limitations, as it cannot be given for more than a very few days at a time. In rheumatism it is far behind salicylate of sodium, and as an analgesic, is not to be compared with antipyrin or antifebrin. Since pyrodin presents no advantages over other antipyretic drugs, the object of this outline is chiefly as a warning against its use.

Pyrodin is one of the latest of the antipyretics. It seems to be a more powerful agent than antipyrin, antifebrin or phenacetin, and much more dangerous in its character. It is a derivative of coal tar, a white crystalline powder, sparingly soluble in cold water, and

[18] Le Progres Méd., 1888, p. 417.
[19] Münch Med. Wochenschrift, 1888, p. 487.
[20] New York Medical Journal, October, 1888.
[21] Therapeutische Monatshefte, August, 1888.
[22] Lancet, December 8, 1889.

almost tasteless. It should never be given in larger doses than twelve grains, and only once in eighteen or twenty-four hours, and then with the greatest caution.

MENTHOL IN PRURITUS LABII.[23]

The application is made by rubbing the affected surface two or three times with solid menthol. It produces some burning pain at first, but is followed by a most comfortable sense of coolness.

PELLETIERINE.[24]

Béranger-Feraud has published an article in which he sums up the cases of tapeworm — in all, 191 patients — at the Maritime Hospital of Toulon during the year 1888, and the results of treatment. He gives the preference to pelletierine, the active principle of pomegranate bark, as being by far the most successful tænicide of all the remedies used. Pelletierine was employed in 152 cases, and was successful in 110; in 42 it was unsuccessful. The patient takes nothing but bread and milk for supper the evening before; the next morning five grains of the sulphates of pelletierine and iso-pelletierine are administered in solution with eight grains of tannin (or half a bottle of Tanret's solution of the mixed pelletierines, the other half to be given in an hour); from 7.30 A. M. to 8 A. M. a full dose of a tablespoonful of the German tincture of jalap is given, or from an ounce to an ounce and a half of castor oil. A few hours after the ingestion of the medicine the patient experiences a slight vertigo; and the tapeworm is voided, as a rule, four hours after the dose is taken. In order to avoid breaking the worm during its passage, and before the head is voided, it is advisable for the patient to sit at stool on a vessel nearly full of warm water.

CREOLIN.

This germicide is obtained from the dry distillation of the best English coal; it is a dark brown, oily liquid of a tarry odor. Its chemical composition is uncertain, and it is not without toxic properties. The preparation made by one manufacturer is not the same as that produced by another, consequently the value of creolin as an antiseptic may vary within wide limits. The danger of poisoning should not prevent the use of the drug, which is said to be preferable to carbolic acid, salicylic acid, iodoform or corrosive sublimate. It may be applied to a wound in solutions containing from 1 to 5 parts per 1,000 without fear of poisoning.

The use of this antiseptic and deodorizer in certain diseases of the throat and nose, especially those which are accompanied by profuse and offensive secretion, diminishes the amount of the discharge and improves its character.

Since the introduction of this substitute for carbolic acid, its use has spread rapidly, not only for external use as a disinfectant, but also as a douche for various cavities and mucous membrane, and even internally in diphtheria, phthisis and diseases of the alimentary canal. It does not act on the skin and tissues, either of the patient or of the operator, as much as carbolic acid. In one case it has caused symptoms similar to those found in carbolic acid poisoning.

SACCHARIN.

In medicine its chief uses have been in diabetes, in place of cane sugar, and as a corrigent. It has been looked upon as an indifferent substance in its effect upon the system. Thus Professor Mosso gave it in large quantities to animals without damaging results, and eighty-five grains in men caused no bad effects.

Salkowski[25] confirmed its innocuousness. Stadelmann, employing it on eleven patients, found it harmless in nine, while in two others it caused severe gastric disturbance. Dr. Worms, in a paper read before the Paris Academy of Medicine,[26] has reviewed the question and presented it in not quite so favorable a light. Used by five diabetics, in the dose of half a grain twice a day, it could not be borne in three of the cases longer than eight or ten days, it then caused loss of appetite, nausea, severe gastric pains and a sweet taste in the mouth.

M. Constantine Paul finds that saccharin possesses marked antiseptic powers. A 1:500 solution hinders, in an appreciable manner, the action of pepsin on the white of egg fibrin, etc., and of diastase on starch, but does not arrest their action entirely. This may, perhaps, account for the digestive disturbances referred to by Dr. Worms.

The mistake generally made with all preparations of saccharin is that the intense sweetening property of saccharin is overlooked, and too much is used, both for purposes of diet — as when it is added to tea and coffee — and when it is prescribed in mixtures, powders, etc. Professor Atfield regards the advantages of saccharin as three-fold. It enables many medicinal confections, powders and lozenges to be given in comparatively small bulk. It is able, by the intensity of its sweetness, to mask the nauseous taste of many drugs; it is not liable to ferment, and hence will yield permanent preparations in place of those made with sugar.

THE RELATION OF DRUGS TO THE SECRETION OF BILE.

As is well-known, there is no therapeutic question in regard to which so much doubt and disagreement prevail as that relating to the action of drugs on the biliary secretion, or, as is commonly said, on the liver.

Prevost and Binet have published[27] the results of exhaustive inquiries into the subject, controlling and testing the results of previous experiments, particularly those of Rutherford. Bile itself they find to be the most powerful cholagogue, whether given in the natural state or in the form of a dry extract. Bile is also toxic in sufficient doses subcutaneously, and will produce death, with symptoms of collapse.

The following substances these observers have found to increase the flow of bile: oil of turpentine and terfene, chlorate of potassium, benzoate and salicylate of sodium, salol, euonymin.

Substances producing only a slight or doubtful and inconstant increase are: alkaline salts, Carlsbad salts, antipyrin, aloes, cathartic acid, rhubarb, hydrastis canadensis, ipecac and boldo. Thus cathartics and the alkaline salts, which Rutherford considered cholagogue in non-cathartic doses, these observers found lacking in any such power.

Substances diminishing the secretion: iodide of potassium, calomel, iron, atropine and strychnine. In regard to calomel, the writers have not been able to confirm Rutherford, who believed that whatever cholagogic action calomel had was owing to its transformation into corrosive sublimate. Corrosive sub-

[23] British Medical Journal, September 1, 1888.
[24] Bulletin générale de Thérapeutique, February 15, 1889.
[25] Virchow's Archiv., cv., p. 46.
[26] La Tribune Méd., 1888, p. 234.
[27] Rev. Med. de la Suisse Rom., 1888.

limate, given by itself, produced no increase in the flow of bile.

GLYCERINE AS A LAXATIVE ENEMA.

The history of the revival of the use of glycerine as a laxative enema is not without interest.

First, Anacker,[28] having discovered that "das Purgativ Oidtmann," a proprietary medicine of some renown, and given by the rectum in quantities of from twenty to thirty minims was mostly glycerine, tried this substance alone with enemas of fifty drops, his success was complete and unvarying. After him Varnassy[29] made trial of it in one hundred and fifty cases of all ages, with astonishing results, using thirty minims. Next, Seifert[30] reports the best results; he used, on an average, one ounce. In smaller quantities he recommends it especially for children. Boas has had the same gratifying success with suppositories of glycerine, the dejection follows in fifteen to twenty minutes.

Glycerine ought not to be used where there is ulceration. Its action is probably due to the local irritation excited by the glycerine.

CHLORALAMIDE.[31]

Among many recent hypnotics this one is brought forward with less than the usual flourish of trumpets which heralds the birth of a new drug. Chloralamide, is an addition-product from chloral, anhydride and formamide. It is a white crystalline body, of slightly bitter taste; it is decomposed in alkaline solutions, and is, therefore, best given in a slightly acid one. It may be given in wine, as it is readily soluble in alcoholic solutions. It dissolves in nine parts of water. The dose is from thirty to forty-five grains; it is not very expensive.

Dr. Kny has compared its action with that of chloral on animals, and finds that the blood pressure is much less depressed from chloralamide than after the administration of chloral. Dr. Kny compared these two hypnotics, on patients who had been using chloral, with good results. He claims that chloralamide may be given without danger to old people, but, as is the case with chloral, in severe forms of peripheral irritation, or in violent cough, or severe headache but little relief is to be obtained. The effectiveness of chloramide as compared with chloral is as forty-five grains of chloramide to thirty of chloral.

Its action is somewhat tardy, twenty to forty minutes, on an average of half an hour, being required to produce decided effect; the influence of chloral is usually perceptible in fifteen minutes. The sleep produced by chloralamide is deeper than that of chloral, and will vary, according to individual pecularities, from six to ten hours.

It is relatively free from irritating properties and from any disagreeable taste, a chief advantage over chloral is the probable absence of any considerable influence upon the heart. It is suggested that its action may be due to the splitting up of the substance into chloral and formamide, by the free alkali in the blood, thus only small quantities of the chloral became effective at any one time. Further, a point which seems to be in favor of the use of chloralamide, is that formamide acts as a stimulant to the vaso-motor centre in the medulla, and thus tends to elevate the blood pressure.

Some observations which have recently been made, in the clinic for nervous diseases at Halle, seem to indicate that doses of forty-five grains of chloralamide cannot be exceeded without leading to unpleasant effects. Two young women, in a perfect state of health, each received at four o'clock in the afternoon sixty grains of chloralamide. Within an hour each complained of dizziness. In one a condition closely resembling intoxication was produced, great excitement, and continuous talkativeness, while the other complained of unpleasant giddiness and staggering, with headache, especially in the posterior part of the head, and nausea. The greatest intensity of these unpleasant symptoms was reached about three hours after the administration of the drug. In one of the cases the stomach was washed out, and found to be entirely empty, although this procedure did not succeed in arresting nausea. With the exception of some slight increase in frequency, there was no change in the pulse worthy of mention; and the next day, with the exception of slight dizziness and moderate pain in the back of the head, all the above symptoms had disappeared. These cases appear to show that only in exceptional instances should the dose exceed forty-five grains. In other respects, the studies made in one hundred and ninety-six different instances, on forty-one patients, seem to warrant the conclusion that chloralamide is a valuable addition to our list of remedies. That in many cases, especially in simple insomnia, it will produce a good sleep without any hurtful influence upon the circulation, respiration or digestion, and with relatively slight, unpleasant subjective after-effects, while on account of its freedom from disagreeable taste it is readily administered.

It is not, however, to be regarded as a hypnotic which will invariably succeed in producing sleep, since, in many instances, it may entirely fail, in others the sleep may be very late in making its appearance, while, finally, in certain cases, and with large doses, the after-effects may be decidedly annoying.

Dr. Reichmann began the use of chloralamide by giving doses of fifteen grains, and obtained very varying results; with doses of thirty grains the action was better, and with forty-five grains still more satisfactory.

Other observers mention slight headache and dizziness as unpleasant accompaniments. For women thirty grains is a sufficient dose. The results, thus far, with chloralamide warrant further trial, though, as with many other remedies, the disadvantages of its use will be more apparant after a larger experience.

[28] Deutsch Med. Wochenschrift, 1887, p. 823.
[29] Men. Med. Presse, 1887, p. 48, and Ther. Monatshefte, March, 1888, p. 140.
[30] Munch. Med. Wochenschrift, 1888, vol. i, 9.
[31] Therapeutische Monatshefte, August, 1889.
Therapeutic Gazette, October, 1889.
American Journal Medical Sciences, October, November, December, 1889.

— MM. Magnan and Saury report three cases of hallucination due to the cocaine habit. According to the *British Medical Journal*, one patient was always scraping his tongue, and thought he was extracting from it little black worms; another made his skin raw in the endeavor to draw out cholera microbes; and a third, a physician, is perpetually looking for cocaine crystals under his skin. Two patients suffered from epileptic attacks, and a third from cramps. Two of these patients had resorted to cocaine in the vain hope of curing themselves thereby of the morphine habit.

Clinical Department.

TYROTOXICON POISONING.

BY J. N. MARTIN, PH.M., M.D.
Acting Professor of Obstetrics and Diseases of Women and Children, University of Michigan, Ann Arbor.

ON May 29, 1889, about 9.30 A. M., I was called in great haste to see Mrs. Roth, of 60 South Fifth street, of this city, who, her husband (who came for me) said, had been taken suddenly and violently ill. While on our way to the house, Mr. Roth complained of feeling very weak, nauseated, and dizzy, and had a choking sensation. Within fifteen minutes I was at the bedside of his wife.

I found her suffering great pain in the region of the stomach and a severe headache, with dryness of the throat, extremely weak and nervous, with some delirium and convulsive movements of the limbs. Her pulse was 124, weak and irregular, temperature 99½°, her pupils fully dilated.

Upon inquiry, I obtained the following history: Mr. and Mrs. Roth (both intelligent people), were perfectly well, previous to breakfast; they ate breakfast at 7.30 A. M., which consisted of milk-toast, coffee and milk. Before the meal was finished, Mrs. Roth complained of severe headache, roaring in her ears and dizziness. Convulsive movements of the limbs soon began, accompanied by a choking sensation. She grew weak so rapidly that she required assistance in reaching her bed. In five or ten minutes, she became delirious, and in less than half an hour was totally unconscious, in which condition she remained ten or fifteen minutes, during which time there was an involuntary discharge of urine. The convulsive movements of her limbs continued until consciousness was restored, and more or less for a half-hour following, and the choking sensation still longer; the headache grew worse and patient complained of severe pain in the region of the heart. "I feel as if my heart were being crushed between two solid bodies," she said.

I administered an emetic of sulphate zinc, which produced free emesis; the convulsive movements stopped immediately, but pain in head and heart continued until they were relieved by nitrate of amyl.

She remained weak during the day, the next morning was able to walk, but owing to extreme weakness any exertion produced marked palpitation of the heart. At the end of seven days, she had completely recovered.

Mr. Roch, who ate none of the toast, but drank of the milk in his coffee, felt no ill effects, until some twenty or thirty minutes after his wife was taken sick, when dizziness compelled him to lie down, he became faint, but did not lose consciousness. His wife's serious condition aroused him, and he came for me, a half-mile distant. On the way, he experienced a choking sensation, pain in the chest and headache; he afterwards remarked, "I should have considered myself a sick man, if my wife had not been so much worse."

The milk used had been delivered the day previous about 9 A. M., received in a tin pail with close-fitting tin cover and placed at once in the cellar way, near the cellar stairs, and close by an open window. The milk was used partly for milk-toast and partly for coffee. That part used for the toast was heated to near the boiling point, thickened with corn-starch, poured over the toasted bread and eaten while hot. The milk used freely in coffee was not heated.

Suspecting tyrotoxicon poisoning, I procured the unused portion of the milk for analysis. Mr. Novy, Instructor in Hygiene and Physiological Chemistry in the University of Michigan, made a thorough analysis, and found tyrotoxicon present in large quantities.

BREECH PRESENTATION: SUCCESSFUL DELIVERY WITH FORCEPS.

BY N. KING, M.D., CAMPELLO, MASS.

KNOWING that the medical profession are not united upon the management of breech cases, and that the application of forceps in such cases is still opposed by many on theoretical grounds, who continue to advocate the use of the fillet and blunt hook, I report the following case as a contribution to the subject.

Mrs. W., age twenty-two, primipara. Confinement expected November 7, 1889. Labor commenced at 9 P. M., October 27th. I was called at four the following morning, and upon examination found the membranes ruptured, a dilated cervix and the breech engaged (L. Sac. Ant.).

Version was out of the question. I endeavored for a short time to get down a leg but failed in my attempt. The pains were violent and slow progress was made until 9 A. M., when the breech was under the symphysis pubis. With the finger in the groin and the thumb on the sacrum, I made traction with the pains for a couple of hours but with no material progress. At 12 M. the pains which previously had been frequent and strong began to lessen in intensity and duration, and in another hour were practically absent.

With a patient discouraged and exhausted and with cessation of uterine pain, I felt that the time had arrived for interference. Accordingly the patient was prepared for operation and was soon well etherized. The forceps (Elliot's) were applied one blade over sacrum, the other over the posterior surface of the thighs. Moderate traction was made at intervals and in twenty minutes delivery of the breech was accomplished, the forceps working to perfection.

Fifteen or twenty minutes were occupied in delivering the head, which was very difficult from over-extension. The usual methods failed until, as a last resort, I carefully applied the blades of the forceps and soon succeeded in bringing it down.

The perineum, which had slightly given away upon birth of breech, was, upon extraction of the head, torn to the sphincter ani. The child was asphyxiated, but in ten minutes was crying vigorously. Weight nine pounds, four ounces. Not marked by instruments to any extent. The perineum was united by two silver sutures. My only assistants in the case were the nurse who gave the ether, and the husband who, under such trying circumstances, rendered aid to the best of his ability.

In eight days the perineal sutures were removed and good union found. Temperature of a degree was present from the third to seventh day; it then dropped to normal, and at this date patient is sitting up, and no longer visited by me.

— The *Medical Mirror* is the title of a new journal to be established in St. Louis, under the editorship of I. N. Love, M.D. The first number is announced to appear in January, 1890.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

T. F. SHERMAN, M.D., SECRETARY.

Regular Meeting. Monday evening, June 3, 1889. Dr. Farlow in the chair.

Dr. S. W. Langmaid read a paper on

NASAL STENOSIS.[1]

Dr. A. N. Blodgett, said that he could testify in his own case to the efficacy of the treatment recommended by Dr. Langmaid. He was surprised to find how readily the septum yielded to pressure by the finger.

Dr. Vincent Bowditch thought the bad condition of the streets in the spring was an important factor in the production of diseases of the throat and nose. He would ask the reader what his experience had been in the use of chromic acid?

Dr. H. W. Broughton usually recommended, in cases of nasal obstruction due to swelling of the mucous membrane the daily use with a blunt syringe of a weak solution of borax and soda.

Dr. Leland agreed with the reader in condemning the use of cocaine, which, by producing a paralysis of the blood-vessels, causes a secondary congestion of the parts. In his practice, however, he had not found the nasal septum so readily movable.

Dr. Farlow spoke of a case of nasal obstruction caused by a redundancy of the external cartilage of the nose, which hung down so as to occlude the nasal passage. In this case he had used a hard rubber speculum fitted inside the nose, which by lifting up the cartilage gave complete relief to the symptoms. He had used the chromic acid and galvano-cautery with good results and thought that the nasal septum could be bent by the finger so as to give considerable relief to the symptoms.

Dr. Langmaid, in conclusion, said that his paper was necessarily incomplete and that he had not touched upon the effects of nasal stenosis through fear of making his paper too long. He had used chromic acid a great deal in the past, in cases of nasal stenosis but not so much during the last few years, as he found that he could obtain as good, if not better results by milder methods. In case of a deflected septum caused by injury, it was his custom, after giving ether to straighten the septum by forceps and then to put in a plug, usually the nipple of a nursing bottle, which may be distended with cotton if required, this will readily remain in for days and give all the pressure you may require.

Dr. J. H. McCollom read a paper on

VARIOLA AND VARICELLA.[2]

Dr. Ayer said that the paper was one of great practical value. He had been taught that "pain in the back" was a valuable diagnostic symptom of variola, but had found in practice, as the reader had stated, that it was of little value in making the diagnosis. He remembered one case where varicella and scarlet fever had occurred together and both ran their normal course. He agreed with the reader that the diagnosis must be made by the appearance and course of the eruption.

[1] Publication deferred.
[2] See page 501 of the Journal.

Dr. Buckingham had seen one case of varicella with severe constitutional symptoms, where the diagnosis was made by this unilocular character of the vesicles and the absence of the "shot-like" feeling of the papules.

Dr. C. P. Putnam said that, as a rule, the diagnosis between the two diseases was easy, but in the epidemic of 1872–73 the cases of variola were often of a mild type, which rendered the diagnosis much more difficult. He should say that the eruption of varicella was more apt to be abundant on the chest and back, while the eruption of variola was more frequent on the face.

Dr. Townsend had seen four cases of varicella and scarlet fever occurring at the same time.

Dr. McCollom said that it was impossible to make a diagnosis between the two diseases before the appearance of the eruption and then is was often difficult during the first twenty-four hours. He would place no stress on the situation, or arrangement of the rash, you might find the rash of varicella abundant on the face or that of variola abundant on the body. In mild cases of variola we may find papules, vesicles and pustules at the same time. He would place the most reliance on the "shot-like" feeling of the papules which is never absent in variola and never present in varicella.

Recent Literature.

Cyclopædia of the Diseases of Children, Medical and Surgical. Edited by John M. Keating, M.D. Vol. I. 992 pages. Philadelphia: J. B. Lippincott Co.

From a glance at the list of contributors to this volume, we are lead to expect a valuable work, and in this we are not disappointed, for we find a collection of monographs, for the most part exhaustive, arranged in a systematic treatise. The editor is greatly to be congratulated on the success of his undertaking, for which indeed the times are ripe, not only in the existence of individuals and societies devoted to the branch of pediatrics, but in the recognition by the profession at large of the importance of this branch with which they all have so much to do, which hitherto has not been properly studied.

In an introductory address Dr. Jacobi shows that pediatrics does not merely deal with reduced doses and the same class of diseases in smaller bodies, but that it has its own independent range and horizon.

Part I. *General Subjects*, begins with an article of forty pages, by George McClellan, of Philadelphia, on "The Anatomy of Children," in which he considers the various regions of the body *seriatim*, illustrating his remarks by numerous diagrams and photographs. The article will be of great value for reference to the diagnostician and surgeon.

Angel Money follows with a chapter on "The Physiology of Infancy," filled with interesting observations, including useful tables of weight and length. The acts of sitting, crawling and walking are, he believes, instinctive, and these acts are not performed at birth, simply for want of development of the brain. Dr. Money concludes by saying "the subject of the physiology of infancy is a comparatively unworked field, but a most interesting one nevertheless."

Chapters on "Diagnosis" often seem a waste of time, as they merely repeat what is to be found in

other parts of the book. This is not the case, however, in the chapter, of fifty-eight pages, under this head by James Finlayson. We are glad to see that "Jadelot's lines" in the face, said to indicate suffering in the head, chest or abdomen, are not looked on with great favor by Dr. Finlayson. It is about time for the text-books to cease from copying them. Under the head of "Peculiarities in the Disorders of the Various Systems in Childhood," he concludes a chapter that is filled with useful hints.

Barton Cooke Hirst discusses the "Disease of the Fœtus"; — then follow "The Influence of Race and Nationality on Disease," by J. Wellington Byers, and "Outlines of Practical Bacteriology," by E. O. Shakespeare. The latter article is carefully written and thoroughly illustrated by cuts and plates, the latter being reproductions of micro-photographs of the tubercle, typhoid and other bacilli.

Wm. C. Dabney reviews in a most able manner the evidence upon which the theory of maternal impressions rests, giving a table of ninety cases from various sources, and one is forced to accept the conclusion, that impressions made upon a pregnant woman *are* capable of causing defects in her child.

R. A. F. Penrose, writing on "The Care of the Child at and Immediately after Birth," presents a very readable article of the methods used by himself, but it is not as thorough and complete as one would wish in a cyclopædia. He describes, for example, but one method of artificial respiration, that of mouth to mouth insufflation, which he considers the best.

The important subject of "Infant Feeding and Weaning" is dealt with in a masterly manner, by T. M. Rotch, in an article of some sixty pages. His endeavor is to follow nature as closely as possible, with the help of the most recent scientific knowledge, and he inveighs against the purely clinical method so generally used by physicians in the study of this subject. Mother's milk, being generally acknowledged to be the best food, interesting analyses by Harrington are given showing how it may be injuriously altered by anxiety, diet, etc. The value and practical importance of these analyses are well shown. The complexity of the subject of artificial feeding is thoroughly recognized, and is treated at length. He describes and figures the feeding tubes devised by himself, easily cleaned and graduated in size according to the age; figures are given of the infant stomach at different ages showing its approximate size. Sterilization, its importance and methods are described, and the bacteria of the alimentary canal considered. Then follow valuable tables of cow's and woman's milk, and also of the various patent foods. The latter are introduced only to show how inadequately they fulfil the requirements of artificial food, and Dr. Rotch does physicians a great service in plainly calling this to their attention.

In a very clear and satisfactory manner, going into the practical details, he shows how cow's milk may be modified by dilution with water and the addition of cream, milk sugar and lime water, so that it approaches as nearly as possible to woman's milk. One cannot but be impressed with the superiority of this scientific and withal simple method of infant feeding over the blundering, slipshod and too often disastrous methods in common use.

The remaining articles in Part I, which space permits us only to mention by name, are: "On the Closure of the Ductus Arteriosus and of the Umbilical and Hypogastric Arteries," by J. C. Warren; "Injuries of the New Born," by Theophilus Parvin; "Wet-Nurses," by Wm. H. Parish; "Diet after Weaning," by S. S. Adams; "Nursing of Sick Children," by Miss Catherine Wood; "Nursery Hygiene," by L. M. Yale; "Dentition," by John Dorning; "Puberty," by Thos. More Madden.

Part II. *Fevers and Miasmatic Diseases.* Dr. J. C. Wilson, of Philadelphia, writes an article of about sixty pages on "Enteric Fever," in which he gives a thorough résumé of the most recent studies in the etiology and pathology of this disease. The symptoms are analyzed with special reference to the course of the disease in childhood, and are illustrated by several temperature charts. He insists on the disinfection of the stools, but in the light of recent views it is unfortunate that he should recommend so highly corrosive sublimate for this purpose.

Passing by "Typhus Fever," by Alexander Collie, and "Relapsing Fever," by R. G. Curtin, we come to "Cerebro-Spinal Fever," written by J. Lewis Smith, about the excellence of which it is, therefore, unnecessary to speak, as he is the well-recognized authority on this subject. The other article, by Dr. Smith, in this volume is on the very important subject of "Diphtheria," to which nearly one hundred pages are devoted, and it is discussed with the thoroughness that its importance demands. After a detailed account of the various views on the etiology of this disease, Dr. Smith says that the theory, which is gaining acceptance throughout the world, is that "diphtheria is produced by a microbe or microbes, whose action is chiefly on the surface or at no great depth," and that blood poisoning occurs mainly from a ptomaine or ptomaines produced by microbic agency; but, he adds on page 605, that clinical observations lend support to the theory that diphtheria is, in some cases, systemic from its commencement, and he will be the most successful practitioner who fully recognizes the fact that he has to deal with a malady which has both a local and a systemic character. The treatment is discussed in a most satisfactory manner.

The subject of "Measles" is rather briefly discussed in eight pages by Waxham, of Chicago; while "Rubella or Rötheln" is presented in a paper of eighteen pages by Wm. A. Edwards. It is a curious fact that writers on this subject who believe in the specificity of rötheln generally take such decided partisan views, and, as in political and religious discussions, endeavor to cast contempt on the other side. When the other side, as Dr. Edwards admits in a foot-note, is represented by such a man as Henoch, it seems rather presumptuous to state that the subject is definitely settled. A careful review of the parallel columns on page 699, for the differential diagnosis of rötheln from measles, leaves one with the impression that where there are any differences at all, the characteristics of the two diseases differ only in degree.

The article on "Pertussis" is written by T. M. Dolan, whose Fothergillian Prize Essay on this subject is well known. The present article is, however, very incomplete and unsatisfactory. For example, almost nothing is said of diagnosis, and under the head of prognosis nothing is said about the influence of broncho-pneumonia and other complications. In fact, broncho-pneumonia is not mentioned by him, unless he intends to do so under the head of capillary bronchitis, which he speaks of only among the morbid

changes. But little is said of modern antiseptic treatment, and nasal insufflations are not even named.

With great pleasure we turn to the article on "Rheumatism," treated by W. B. Cheadle, in forty pages, in a most thorough and scholarly manner, as the subject requires; for, as he shows, acute rheumatism in the child and acute rheumatism in the adult are very different in their manifestations. The relations of this disease with chorea are very fully discussed, and the author's extended and careful observations on the subject are given. The important subject of treatment is also most satisfactory.

Limited space alone forbids us to consider the remaining articles, most of which are excellent, and to name them is all that can be done here: "Fever," by Wm. Pasteur; "Scarlet Fever," by S. C. Busey; "Variola," by A. D. Blackader; "Vaccination," by W. T. Plant; "Varicella," by C. G. Jennings; "Parotitis," by O. P. Rex; "Erysipelas," by J. O. Hirschfelder; "Malaria," by F. Forchheimer; "Yellow Fever," by J. Guitéras; "Dengue," by R. Matas; "Cholera Infectiosa," by E. O. Shakespeare; "Joined Twins," by W. W. Jaggard; "Embryology," by H. Jayne; "The General Therapeutics of Children's Diseases," by Roberts Bartholow.

The work as a whole, as shown by this first volume, is certainly most satisfactory, and its value to practising physicians cannot be estimated. C. W. T.

Transactions of the American Orthopedic Association. Vol. I. Published by the Association. 1889.

This neat volume, of which 500 copies alone have been printed, contains the Constitution and By-Laws of the American Orthopedic Association, a list of its members, an account of the preliminary meeting and the transactions of the first and second annual meetings.

To the general surgeon this work is one of great interest. The reclamation of orthopedics from the hands of quacks and instruments makers has been of such recent origin, that one is apt to look at orthopedic surgery as rather an unnecessary specialty, but the present initial volume of the Association's transactions, cannot but fill us with hope that this important branch of surgery is permanently reclaimed from the opprobrium in which it rested.

Such work as the "Treatment of Club-Foot," by E. H. Bradford; "Observations of Seventy-five Cases of Flat-Foot," by Royal Whitman; Etiology and Pathology of Rhacitic Deformity," by Charles N. Dixon Jones; "Deformities of the Tarsus in Congenital Equino-varus," by N. M. Shaffer; "Osteotomy for Anterior Curvatures of the Leg," by De Forest Willard; "An Experimental Study of Fixation and Traction in the Treatment of Hip Disease, with the Description of a Splint," by Robert W. Lovett, — show that the work done by this Society is of great value.

The advances which are being made in this branch of surgery are, we believe, not appreciated by the surgical profession at large. The general practitioner and surgeon have too often regarded orthopedic cases as chronic and incurable, and in the busy whirl of life have passed them by with scarcely an effort to save them from permanent crippledom. No broader field of work can be given a man than that of re-establishing the working capacity of his fellow man.

The restoration to usefulness of flat-feet, the abolishment of club-foot, the saving from permanent deformity of caries of the spine and the restoration of patients with diseased joints to health and usefulness, is a work which not alone concerns humanity, but the common weal.

We regret to say that a proneness to expressions of personal opinion, rather than to the presentations of facts, mars the volume. This is perhaps pardonable, in that it presents the personal opinions of the members of the Society, but it is more in accord with a scientific spirit to deal with principles and not with opinions.

Let the work of this Association continue at its present high standard, and the recognition of its importance is inevitable.

A Treatise on Surgery; its Principles and Practice. By T. Holmes, M.A., Cantab, Consulting Surgeon to St. George's Hospital, etc. With 428 Illustrations. Fifth Edition. Edited by T. Pickering Pick. Philadelphia: Lea Bros. & Co. 1889.

This work, which is practically an introduction to the author's more elaborate "System of Surgery," has reached its fifth edition, which shows that a demand exists.

In the original edition the author states that it is an exposition especially of British surgery; this leaven, we find, has clung to it through its various editions. It would seem, however, that "A Treatise on Surgery; its Principles and Practice," should have a broader field to draw from than that of British surgery. It is an admirable work in many respects, but much of the apparatus figured is antiquated and has long since been superseded by simpler and more effective forms of apparatus. Again, the methods of operating are neither complete in number nor sufficiently detailed to be of value; this is notably the instance in the radical cure of hernia.

Laryngology and otology have assumed so definite a position as specialties that it is unwise perhaps to devote any space to them in a treatise on surgery, but, if they are considered, it would seem that at least more than eleven pages should be assigned to the subject of diseases of the ear. We cannot see that this work excels any of the systematic treatises in the market. It is well-printed and beautifully bound.

The Story of the Bacteria and their Relations to Health and Disease. By T. Mitchell Prudden, M.D., New York and London: G. P. Putnam's Sons. 1889.

This little volume, in the compass of 138 pages, sets forth for the instruction of the lay reader, who it may be supposed is likely to become somewhat alarmed at what he gleans from the magazines and newspapers as to the abundance and the evil potentialities of the microbe and the bacillus, the facts in the case. The writer takes the ground that while the knowledge of the existence of such organisms may disquiet the unscientific by seeming to show nature to be "less men's friend" than would otherwise be thought, yet that the public may well be taught enough about the bacteria to enable an intelligent avoidance of the unsanitary conditions which foster their growth. The specific microörganisms of disease, so far as known, are separately described, with an account of the circumstances favorable and unfavorable to each. The material of the book is well considered, and the language is clear and free of technicalities.

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FREQUENCY OF ALBUMINURIA IN THE SICK AND THE AGED.

LECORCHÉ and Salamon have compiled some statistics showing the frequency of albuminuria in diseases other than Bright's disease, and in old people.

At the hospital Broussais, in 1886, they sought for albuminuria in the urine of 350 patients, male and female. In most of these patients the urine was analyzed many times during their stay in the hospital. The reagents employed were heat and acetic acid, nitric and picric acids and Millard's test.

Out of these 350 patients there were 184 (52.5%) who were albuminuric. These patients were divided into four categories:

(1) The tuberculous, 97 in number; albuminuria was noted in 45 (46.3%).

(2) Patients suffering from cardio-vascular affections, that is, organic lesions of the heart or generalized atheroma, or cerebral atheroma with hemiplegia. The number of patients in this category was 81, of whom 48 were past the age of sixty; 53 were albuminuric (65.4%).

(3) Patients with slight affections, such as fibricula, rheumatoid pains, neuralgia, dyspepsia, varices, hysteria, anæmia. The whole number included in this class was 106, of whom 35 had albumen in trifling quantity in the urine (33.3%).

(4) In a last category, they grouped, on the one hand, acute febrile diseases, — pneumonia, typhoid fever, acute rheumatism, erysipelas, in which albuminuria is constant; and, on the other, divers apyretic or chronic medullary, hepatic, pulmonary and other affections. The whole number was 66, of which 38 were acute diseases, and attended with albuminuria. Of the 28 apyretic cases, albumen was noted in the urine of 13 (46.4%).

To determine the frequency of albumen in the urine of the aged, they availed themselves of observations made in the hospital (Ivry, service of Ollivier). The tests employed were heat and nitric acid. They grouped these cases in three classes, according to the age of the subjects; from sixty to seventy years, from seventy to eighty years, and from eighty to ninety years.

In the first class (between sixty and seventy) there were 56 patients; 27 were albuminuric (48%) and 29 non-albuminuric. The diseases from which these patients were suffering were: biliary lithiasis, acute aortitis, chronic bronchitis, mitral insufficiency, cerebral ramolissement, pericarditis, pneumonia, cerebral hæmorrhage, paralysis agitans, multilocular sclerosis, chronic bronchitis with emphysema, aortic insufficiency, chronic rheumatism, cancer of the stomach, locomotor ataxia, hemiplegia, etc.

In the second class (between seventy and eighty), there were 80 patients; 48 of these were albuminuric (60%). Diseases were much the same as those above given, general atheromatous and cerebral affections predominating.

In the third class (between eighty and ninety), there were 21 patients; 15 of these were albuminuric (71%). Predominant diseases: cardiac, arterial, cerebral.

Thus, out of a total of 157 subjects, male and female, aged from sixty to ninety years, in 90, or 57%, the urine was found to coagulate under heat and nitric acid. Of the above 157 cases, 73 had died prior to the publication of the statistics, and the autopsy gave an opportunity to note the state of the kidneys. Of these 73 subjects, 56 had albumen in the urine during life; 17 were exempt from albuminuria. In the 56 patients who had had albumen in the urine, there were found:

Atrophied, granular, cystic kidneys	18
Atrophied kidneys with smooth surface, red or yellowish,	19
Kidneys of normal volume, but granular	2
Kidneys of normal volume, with infarctus	2
Kidneys of normal volume, mottled or yellowish	3
Kidneys of normal volume, congested	12
	56

In 12 cases only the albumen was due to simple renal congestion, the structure of the kidney appearing normal to the naked eye. In all the other cases there existed lesions appreciable at first sight, and in 37 the kidneys were atrophied, their weight not exceeding four ounces.

Of the seventeen autopsies of subjects whose urine had been free from albumen during life, in six, or nearly one-third, the kidneys were found atrophied, as the following table shows:

Kidneys of normal volume, with smooth surface	11
Kidneys with smooth surface, but atrophied	5
Kidneys red, atrophied, and granular	1
	17

From the above statistics it will be seen that the number of cases in old people affected with chronic diseases, in which the kidneys are seriously impaired structurally, and more or less functionally insufficient, is considerable. In these patients, an acute malady of almost any kind which suddenly blocks the renal filter with waste material is often speedily fatal.

THE CHICAGO WATER-SUPPLY AND DRAINAGE DISTRICT.

CHICAGO, her citizens wish to believe, and especially at this period of competition for the Exhibition of 1892, perhaps has the best drinking water of any city in the world, if only her sewage can be prevented from flowing into the lake and out to the crib, where the water is taken into the tunnel that flows under the bed of the lake to the city. For a number of years suspicion has been rife that at certain times the sewage water from the city did reach the crib to contaminate the water-supply. Probably through the last ten years there has been no considerable contamination of the water-supply in this way during ten months of each. During two months of each year, however, there is some reason to think the water has been contaminated in this way, and the freshet of last summer undoubtedly carried the river water with all its filth out as far as the crib, or farther.

The prevention of the contamination referred to, involves the necessity of disposing of the sewage in some other way than by allowing it to flow into the lake. Long ago it was discovered that the river water could be made to flow upward and out into the Illinois Canal, and down into the Illinois River and so on into the Gulf of Mexico, provided the canal was deepened along the elevated ground back of the city. That was attempted a quarter of a century ago, and a current actually flowed in this direction, but it was too insignificant to carry off the river water or very much of the sewage. Within a few years this resource has been enhanced by powerful pumping engines that lift the water into the canal so that a larger quantity is gotten rid of in this direction. In times of drought this will even prevent the flow of the water into the lake to any great extent, and so prevent the sewage from extending out into the crib, but every freshet casts into the river such a volume of water that the canal cannot take care of it, and it must flow out into Lake Michigan.

How to prevent this has been the problem. It would require some millions of dollars to widen and deepen the canal so as to make it certain that even in dry weather no sewage should flow into the lake. It has been found that, if the flood water from the districts back of Chicago, which now flow into the river, could be diverted through artificial channels from the river and into the lake direct, the flooding of the river in the city in times of freshet might be prevented almost completely. The State Legislature at its last session provided a means whereby the city of Chicago, and the districts referred to, might be organized into a "Drainage District" for the purpose of raising money to divert the flood water, and to deepen the canal to take care of the ordinary flow of sewage — polluted river water. Whether such a district should be organized was submitted to a popular vote at the election of the 5th inst. The proposition was adopted by an overwhelming majority. Its adoption by the people makes it possible to prevent in the future the discharge of any considerable quantity of sewage into Lake Michigan. The sewage would be made to flow in the other direction, over into the Illinois River, down into the Mississippi, and on to the Gulf, and the drinking-water of Chicago would be secured against any possibility of infection from these sources.

A new tunnel is being built, and a new crib, much farther out into the Lake than the old crib; and this, when completed, should make the Chicago water supply, not only for purity, but for abundance, as well as for certainty against accidents, all that could be desired.

MEDICAL NOTES.

— Quite a number of the patients of the Indianapolis Insane Asylum were recently taken to the theatre. They behaved with perfect propriety, enjoyed the comedy, discussed the situations of the play with intelligence, and asked to be taken again.

— Sir Morell Mackenzie has been vindicated by the Royal College of Surgeons. Though condemned by the Council of the College for publishing his book concerning Emperor Frederick, he had but one accuser at the general meeting.

— Before the Medical Jurisprudence Society, of Philadelphia, Dr. John J. Reese recently read a paper against the indiscriminate embalming indulged in by the undertakers, in cases where death is suspicious and the Commonwealth desires a post-mortem examination.

— The Southern Surgical and Gynecological Association held its annual session in the Senate Chamber of the Capitol, at Nashville, November 12th, 13th and 14th. The address of welcome was delivered Tuesday morning, at ten o'clock, after which President Hunter McGuire, of Richmond, delivered his annual address.

— President Adams, of Cornell University, in his yearly report just issued, points out the advantage of having medical schools connected with universities, rather than standing by themselves as private enterprises. He asks why the college of medicine cannot become a department of the university in this country, and ventures the opinion that if all the students admitted to a medical college were required to have such a preliminary outfit as is prescribed at the four years' course at Cornell, the course in medicine could probably be well given in two years, of nine months each, while a third year might be devoted to clinical work in the hospitals.

— The annual report of Surgeon-General Browne to the Secretary of the Navy shows that, in addition to the eleven vacancies existing in the Medical Corps in October, 1888, six more occurred during the year — four by death and two by retirement. The transferring of the Medical Examining Board from Philadelphia to New York and the establishment of another Board at Mare Island has been attended with gratifying results, without lowering the standard of proficiency in the examination. A greater number of candidates have presented themselves, and twelve have passed the

examination. At present there are eight vacancies in the corps, and there is reason to believe that they will soon be filled.

— Any hopes which absinthe-drinkers might have cherished from the paper of Dr. Cadeac recently presented at the Paris Academy of Medicine, which took the ground that the deleterious effects so well-known were due to other substances (notably anise) mixed with the absinthe in the popular drink, and not of the absinthe itself, must have been chilled by the experiments of Dr Laborde, before the same body, as reported. He injected one fluid gramme of extract of absinthe into the veins of a guinea-pig, and in five minutes the creature was seized with epileptiform convulsions, in which it continued until it died in forty minutes. Into another guinea-pig was injected in exactly the same way, one fluid gramme of extract of anise, which was almost without effect, but made the animal dull and sleepy. Three fluid grammes of the same substance produced a condition of deep somnolence, in which the demonstrator said that the animal would die in twenty-four hours, but there was no convulsions. Dr. Laborde, gave a short account of the various qualities of absinthe, and said that the pure and strong, as made in France, was "*presque foudroyant*" — that ordinary drinkers of absinthe owed their lives every day to the fact that the absinthe sold them was of poor quality, and that the soldiers could drink enormous quantities in Africa, because the Algerian absinthe was of a very feeble sort.

— A writer in the *New York Herald* says of the late French general Faidherbe, one of that small number of French general officers who in the last war between France and Germany won a battle and came out with a fair measure of fame, that he had in his day been a member of a mutual autopsy society, and as such had made a contract by the mere fact of membership that his body should be delivered at his death for post-mortem inquiry. And, therefore, while all others were filled with lamentation forth came M. Laborde and claimed the body of the dead general. This was the first that Mme. Faidherbe had ever heard of the existence of the society or of the general's relation to it, and she was shocked at the suggestion, and objected vigorously. As the surgeon possessed all the manly and gentle sentiments of his craft, he yielded the question of right to the natural sensibilities of the bereaved lady, and so the general was buried in debt to the society. There is some scientific reason to regret that the autopsy was not made. General Faidherbe had locomotor ataxy, and had been a victim of the malady for forty years, Dr. Charcot says that the malady has never before been observed in one person for so long a time. The observation of the conditions that had arrested the progress of the disease might have been of benefit to humanity.

— A Chicago paper describes a new "System" of medicine, which seems to surpass in simplicity all other "schools" of practice. The essential feature "consists of a figure of a man made of metal, divided internally into compartments representing the heart, lungs, liver, stomach, throat, etc. In each of these is a drawer opening outward, in which there is an approved remedy for the diseases of the organ. The drawer can be opened by pushing a coin into a slot situated where the keyhole ordinarily is. The packages of pills or powders will contain full directions in regard to their use. It is proposed to set up one of these combined doctors and druggists in every public square, at the principal street crossings and at all railway stations. In country places one of these automatic medicine dispensers will stand near each postoffice, church and other public buildings. A resident or traveller, being suddenly afflicted with the toothache, pushes a dime or sixpence into a slot, opens the drawer leading into the mouth, takes out a powder, swallows it and is at once relieved of pain. Corn plasters are taken out of the foot and porous plasters from the back. In a drawer in the forehead are remedies for various kinds of headaches. It is not necessary for a person to know how to read in order to enable him to prescribe for himself. If he knows "where he feels sick" he will know where to find a remedy for his complaint. In cities where many languages are spoken this representation of a man will be very convenient, as it will render the services of an interpreter unnecessary. It will be as easy to obtain medicine from this automatic machine as it is water from the town pump. A competent person will take charge of them, refill the drawers and collect the money deposited every day." The chronicler of this discovery describes it to be a philanthropic Dutchman; but we suspect that it is but another evidence of the commercial supremacy of the great city of the Lakes.

—A correspondent of the *Medical Press and Circular* having written in a despairing mood that he had mistaken his profession, to attain success in which either "money or a bald head" was an essential condition; that paper replies:

"It is, no doubt, very much to the advantage of a young practitioner to exhibit a 'modern antique' appearance, and nothing contributes so greatly to this end as a head which is innocent of hair. There is a real commercial value in a bald head, but this value is by no means confined to the medical profession. Whatever advantages, however, it may confer on a 'business young man,' to a medical man a fair estimate under favorable circumstances would be, at the lowest, five hundred a year. The assumption of age and ripe philosophy which a man can safely indulge in whose hair follicles upon the top of his head have in early manhood undergone a process of fatty degeneration, leaving a white expanse of reflecting integument, is a matter of common observation. The public are impressed by the appearance of things under these circumstances; a bald head will carry conviction to their minds when nothing else will — saving, perhaps, a flowing beard.

"Even the lower animals are not insensible to its attractions. It is recorded that an ostrich once sat

down upon the bald head of an Englishman, under the impression that it was an egg which required hatching. The circumstances were favorable to this slight error of judgment, and the sagacious bird must be acquitted of having purposely attempted to play a practical joke. But in this matter, as in all things else in life, appearances are everything. No one knows better the value of a bald head than he who possesses it; at all events in medicine; but how strangely captious is nature, for while one man, greatly to his worldly prosperity, conveniently finds his head becoming bald, another has to seek consolation where he can under the depressing circumstances of knowing that his head is the only place upon which he cannot get hair to grow."

BOSTON AND NEW ENGLAND.

— A boy at the North End who has varioloid was removed to the Canterbury-street Hospital November 18. This case is directly traceable to the others which were recently found in the district named.

— Under the will of the late Moses Wildes, the Massachusetts General Hospital receives, after a life-interest expires, the sum of $20,000. The same testator leaves, subject also to a life-interest to a kinsman, the sum of $6,000 each to the Home for Aged Women, and the Doane Fund for Sick Nurses, and $2,000 to the Little Wanderers' Home.

— A conference in the interest of physical training is to be held at Huntington Hall, Massachusetts Institute of Technology, Boston, on Friday and Saturday, November 29 and 30. There will be two sessions of the conference daily, from ten to one, and from three to five o'clock. The object of this conference is to place before educators different systems of gymnastics and to secure discussion of the same, with a view to ascertaining the needs of schools and determining how they may best be met. The conference will be presided over by Dr. William T. Harris, United States Commissioner of Education. Papers will be presented, accompanied in some cases with illustrations of class work by Edward Hitchcock, M.D., of Amherst College; Edward E. Hartwell, M.D., Ph.D., of Johns Hopkins University; D. A. Sargent, M.D., of Harvard University; H. D. Wey, M.D., of New York State Reformatory, Elmira; Hobart Moore, of Boston Public Schools; Henrich Metzner, of New York German Turnverein; C. W. Emerson, M.D., of Monroe College of Oratory; Nils Posse, M.G., of Boston School of Gymnastics. A number of prominent physicians and educators are expected to take part in the discussions.

— A Boston paper says that one of the curiosities of medical advertising came to light in a pamphlet recently distributed in our vicinity. A letter from a gentleman is published, giving an account of his remarkable cure by Dr. ——. On the margin of the page is printed in red letters: "Mr. W. cannot be referred to, having died since this book was published."

— The Maine State Board of Health have issued a circular on the prevention of consumption, pointing out the dangers of tubercular transmission in the light of recent research and experiment.

— The Twenty-sixth Annual Report of the Board of Trustees of the Rhode Island Hospital Corporation, just presented, shows that the number of patients in the hospital wards, September 30, 1888, was 69. The number admitted between that day and September 30, 1889, was 902. The number in the hospital, September 30, 1889, was 57. The greatest number in the hospital on any one day of the past year was 95, the smallest number, 52. The highest monthly average is that of March, 1889, 89.32; the smallest, that of September, 1889, 65.33.

The statistics of the Training School for Nurses are:

September 30, 1888, number in the school	19
September 30, 1888, to September 30, 1889, admitted	16
Graduated	7
Left from bad health	4
Left for other reasons	4
Remaining in school	20

The expenditures of the hospital are:

Amount paid out by the Treasurer	$8,962 13
Amount paid out by the Superintendent	39,462 06
Total	$48,424 19
Showing the expenses to have exceeded the income by the sum of	$4,556 95

To meet this deficiency 58 guarantors have pledged themselves for 73 shares each for one one-hundredth part, or $45.57 per share, amounting to $3,326.61, leaving the sum of $1,230.34 to be charged to the deficiency account.

NEW YORK.

—A new home for aged and indigent women, called the Isabella Heimath, has just been completed, at 190th Street, New York, and dedicated to its use. Mr. Oswald Ottendorfer gave $600,000 to its construction.

— At the meeting of the Medico-Legal Society of New York, November 20, 1889, the following papers were read: "The Pathology of Death by Electricity," by P. E. Donlin, M.D., of New York; "Life Insurance," by Daniel Jordan, Esq., of New Brunswick.

— The Executive Committee of the New York Post-Graduate Medical School and Hospital have established a clinic for diseases of the rectum, to be under the care of Dr. Charles B. Kelsey, for the treatment of poor persons suffering from these diseases. Dr. Kelsey will also give clinical instruction in the Post-Graduate School on this subject.

Miscellany.

SULPHUR LOZENGE.

SIR ALFRED B. GARROD, in an interesting paper (*Lancet*, Vol. 1, 1889, page 665, and *Practitioner*, September 1889), records his experience of the administration of sulphur in very small doses and for a lengthened period of time in the treatment of disorders

of the alimentary canal and liver; also in certain diseases of joints, especially rheumatoid arthritis; and, lastly, in chronic muscular rheumatism and skin diseases. The form selected by him for the exhibition of the drug is a lozenge containing five grains of the milk of sulphur and one grain of cream of tartar. This lozenge is far from disagreeable, the cream of tartar giving it a pleasant acidulous taste; and it contains enough sulphur for therapeutic purposes. Sir Alfred claims that the stomach itself is probably little influenced by the sulphur, as the surface and contents of that organ are usually acid in reaction, and possess no solvent power; but that when it arrives in the duodenum, and meets with a different condition of the mucous membrane and the presence of bile and pancreatic fluid, both of alkaline reaction, more or less of it becomes converted into a soluble sulphide, which is absorbed by the portal vessels. The presence of the cream of tartar in the lozenge helps to prevent the formation of any soluble sulphide in the stomach, and hence the absence of sulphurous eructations. Sir Alfred Garrod finds that even this small quantity of sulphur usually produces appreciable laxative effects, and patients can be readily induced to persevere in using the lozenges for an almost indefinite time. Sulphur given in the form just described exercises a markedly beneficial effect in many morbid states of the alimentary canal and liver, such as hepatic sluggishness, piles, and hæmorrhoidal bleeding; besides which the continuous use of the lozenge is often quite effectual in obviating habitual constipation without being attended by the unpleasant action often pertaining to ordinary aperient medicine. Much benefit was also derived from the continued use of the small doses of sulphur in chronic forms of rheumatoid arthritis and gout, and in many cases of muscular rheumatism.

THE CITY OF SANITAS.

Its walls of tiles enamelled
Shine in the sun's bright sheen,
And the broad, deep moat about them
O'erflows with listerine.

When the approaching traveller
Draws near the city's gate,
A sanitary picket
Demands his purpose straight;
And if he fain would enter
That city in its pride,
He must first be stripped and ducked
In kreolin germicide.

They 'll shave his head and body,
Ere the inner gate they ope,
Using freely of a lather
Made from strong carbolic soap;
While the razor used to further
Their depilatory zeal
Has been sterilized by heating,
Till it fairly makes him squeal;
And by aid of hose and stopcocks,
And tubes appropriate,
They wash out all his cavities
With corrosive sublimate.

This done, he passes onward
To a laboratory near,
Where he 's carefully inspected
By a microscopic seer.

When this critical inspection
Is eventually passed,
They ope' the inner gateway,
And let him in at last.

Clad in a shirt aseptic
Of asbestos silicate,
And outer germ-proof tunic
In triple nickel-plate,
He treads the polished surface
Of the broad and cleanly street,
Which sterilized char-women
With naphthaline keep sweet.

High overhead an awning
Of antiseptic gauze
Strains the outer air of microbes
Who'd violate the laws;
And at nearly every corner,
With microscope at eye,
Biological policemen
For errant germs do spy.

O pure, aseptic city,
Where microbes never stray!
Where curled or straight bacilli
Are never asked to stay!
I know not — oh, I know not
What health awaits me there!
What freedom from contagion!
What purity of air!
There could one live forever,
Free from insidious worms,
And never know the horror
Of a world too full of germs.

C. F. C.

ICE IN THE NIGHT SWEATS OF PHTHISIS.

ROSENBACH (*Pr. Med. Wochschr.*) recommends for arresting the night sweats, which so enfeeble the phthisical, applications over the abdomen of a bladder half-full of ice, and to let it remain several hours. The patients tolerate it very well, even when they present an evening elevation of temperature. This means succeeds where atropine has failed, as well as powdered salicylate of soda sprinkled over the entire body.

RECURRENCE OF CANCER OF THE BREAST AFTER AMPUTATION.

FROM microscopic examinations of carcinomatous mammæ amputated by Professor Küster, according to the *Lancet*, Dr. Heidenhain predicted a return of the cancer in twelve cases, because parts of the morbid growth had remained in the wound. In the other cases he diagnosticated a radical cure, which diagnosis had proved correct up to the date of the publication of his paper, because the operation had removed the whole of the morbid growth. The usual cause of the recurrence is that only microscopic parts of the gland or the tumor remain on the surface of the pectoralis major. In thin women the whole mammæ is firmly attached to the muscle, but in obese subjects small glandular lobules are generally attached to the fascia between the mammæ and the muscle, so that in amputation above the muscle small particles of the gland may easily be left. Every mamma in which a single cancer node is found, according to Heidenhain, is largely, perhaps *in toto*, diseased. He found the epithelial cells of the acini proliferating in all parts of the mamma, and

observed hypertrophy of the periacinous connective tissue, and he believes that these acini remaining in the wound form the origin of late secondary growths. In the retro-mammary fat there are, side by side with the blood-vessels, lymphatics leading from the mamma to the subjacent fascia, and the latter were, in two-thirds of the cases, full of metastatic cancerous masses. The pectoralis major itself is only affected when a metastatic cancer-node invades the muscle from the fascia, or the original tumor attacks it by its own simple growth. Heidenhain concludes that, to make amputation of the mamma more successful, it is necessary, even in freely movable carcinomata, not only to remove the whole mamma, but also a superficial layer from the whole of the pectoralis major, and, in tumors which are closely connected with the muscle, to entirely extirpate the latter.

THE STING OF THE JELLY-FISH.

Dr. B. W. Richardson writes on the above subject in the last number of the *Asclepiad*, giving a personal experience of his own. He says:

"In my case I was caught by the shoulders and chest in the tentacles of a large medusa, and had really for a minute or two a difficulty in freeing myself. The surface of the skin touched by the tentacles began to smart at once, and by the time I was out of the water and partly dressed, the skin was covered, over the surface attacked, with a bright erythema, accompanied with a sense of extreme heat and irritation. The sensation was much the same as that brought on by the application of a mustard poultice, except that it was not so uniformly diffused, but was rather in the form of wheals in slightly raised lines, with a considerable number of points at which the tingling and heat were most severe. Unfortunately, I had no clinical thermometer by me with which to take the local temperature, but judging by the touch of the hand the local temperature was raised at least two or three degrees. The redness and irritation lasted seven hours, and did not absolutely subside until after a night's rest; but during the time it was on in the acute form, it was soothed considerably by the application of water, rendered alkaline by common washing soda in the proportion of an ounce of the soda to about two quarts of water.

"A friend of the writer suffered far more severely. He was bathing where a number of jelly-fish were present, and got so entangled amongst them, that, as he said, he was 'stung over almost all the surface of his body.' He suffered from an acute erythematous eruption which lasted over sixteen hours, attended with two degrees of general fever, and followed by malaise that lasted three days.

"A still more important case happened in a very singular manner, to another friend and patient. I had gone down to a bathing-place in the summer of 1872, not knowing that my friend was there. I had not been on the spot two hours when a messenger came to me asking if I would go, *at once*, to Mr. G., the friend in question, because he had been 'stung in the throat by a jelly-fish, and they were afraid he would not live.' On reaching my friend — who had accidently heard I was near to him — I learned that about two hours before, while he had been floating on his back in the sea, with his mouth open, the tentacles of a jelly-fish swept into his mouth and stung him severely in the back of the throat. There could be no doubt about the mischief, for the throat over the whole of the pharynx was intensely red, and the surface was rough and raised. With this condition there was considerable heat and irritation, amounting to acute pain, and attended with inability to swallow anything except fluids cooled with iced water. The idea of extreme danger was present in the mind of the sufferer, and I believe my firm assurance that he would take no harm contributed as much to the recovery that succeeded, as the simple alkaline remedies which formed the chief part of the medical treatment. In this case also there was a rise of two degrees of temperature, and, during convalescence, there was marked depression of both mind and body for a period of two or three days.

"In describing these phenomena," he adds, "I have used the ordinary word 'sting' for the want of one more accurate. Really, I do not know whether it is a sting, like that of a wasp or a nettle, that is inflicted, or whether a secretion, acrid in kind, is thrown upon the surface and acts directly as an irritant fluid. On the whole I suspect it is a fluid, an organic acid, which is the cause of the irritation. For the resultant erythema local alkaline treatment is particularly effective. In the throat case, bicarbonate of soda with mel boracis proved very grateful and useful."

THYROIDECTOMY AND THYROID TRANSPLANTATION.

Goitre is such a rare disease in the United States that the subject of its operative treatment is of but little practical importance for most American readers. Nevertheless, the results obtained are so mysterious that perhaps a few words concerning them, as at present illustrated in the wards of Professor Theodor Kocher, of the University of Berne, and as contained in the *Therapeutic Gazette* for September, may not be devoid of interest. As is well-known in the great majority of cases, myxœdematous diseases after a time follow the complete removal of the gland. This Professor Kocher has found may be avoided by leaving in the neck one lobe, or even part of a lobe, of the gland.

A very bold experimental operation for the relief of the myxœdema, which has followed complete removal of the gland, is now under trial, says the *Gazette*. "It consists in inserting a fresh healthy piece of the gland in the abdominal cavity, with the hope that it may form attachments and perform its mysterious function. In one case, probably by pressure upon the large intestines, the inserted mass, after the complete healing of the wound, caused such violent colicky attacks that it had to be removed, but in most instances no evil effects have followed the insertion. What becomes of the transplanted gland is not yet known. A case was recently shown that had been operated upon about three months previously, in which the presence of the gland in the abdomen could apparently be still demonstrated by palpation, etc., and in which the patient asserted his general condition was much better than before the abdominal section. It will be a very strange physiological fact if it should be found that the transplanted gland has the power of taking root and adapting itself to its new environment. It is, perhaps

allowable to add that the glandular masses for transplantation have been taken from the necks of individuals with hypertrophied thyroids."

A NEW ANTISEPTIC DRESSING.

SIR JOSEPH LISTER, in an address delivered before the Medical Society of London, November 4th, advocates a new substance as the antiseptic factor in surgical dressings. He premises, by referring to the difficulty in the use of corrosive sublimate, that it precipitates albumen, being not that the precipitate is, as had been generally supposed, an albuminate of mercury, that is to say, a combination of albumen as an acid with mercury as a base; in other words, that the albumen does not displace the chloride from its combination, but that the bichloride of mercury retains its properties intact, the albumen being loosely associated with it, in a species of solid solution, so to speak.

Various other substances were studied, notably sal-alembroth (the double salt of bichloride of mercury and chloride of ammonia), the biniodide of mercury, and finally the double cyanide of mercury and zinc. The double cyanide requires about 3,000 parts of blood serum to dissolve it. If, therefore, it is present in a gauze in the proportion of about three per cent., blood serum may soak through such a gauze time after time without washing the ingredient all out; so that it is a material which is admirably stored up in the dressing. That is one of its three great advantages, the others being that while trustworthy as an antiseptic it is completely unirritating. In actual practice the few layers placed next to the wound are washed in a solution of carbolic acid; this washes out the corrosive sublimate, which, though present in small amount, might irritate the wound to some extent. The carbolic acid soon flies off, and there is left in the application next the wound merely the unirritating double cyanide, and under this it is found "not only do wounds, the edges of which are brought accurately together, unite beautifully by first intention, but even granulating sores heal by the gradual process of cicatrization from the edges — heal by scabbing in a way that we have never seen under any other dressing."

As to the composition of this so-called double salt, it is for the present uncertain. This much is already established: that the cyanide of mercury is in very much smaller proportion to the cyanide of zinc than theoretical chemical considerations would lead us to expect the double salt would give. But what the precise composition of the salt is we do not yet know. It is now being investigated by the Pharmaceutical Society, who have undertaken the work.

DEATH DURING ANÆSTHESIA WITH CHLOROFORM.

DR. W. L. MUSSEY, reports to the *Cincinnati Lancet-Clinic*, October 12th, another of the too frequent cases of death from chloroform. The patient, had received an injury to his right thumb. The injury was caused by a falling box, and consisted in a cut on both sides of the thumb in its long axis lateral aspect, extending to about the centre of the proximal phalanx. The distal phalanx had been forced through the skin at a point just posterior to the nail, which, with the muscles on the palmar surface of the thumb, lay below it.

The patient, a man of apparently thirty years of age, well developed and nourished and of medium height, was extremely nervous and excited; so much so, in fact, that no examination could be made, for on merely attempting to wash away the blood he nearly fainted and asked for an anæsthetic. Chloroform was administered, and the ordinary, well-known inhaler was the one employed. An examination of the man's heart and pulse showed a slight indistinctness of the first sound at the apex; the pulse was full and regular. The chloroform was in an ordinary four-ounce bottle, the cork of which had been cut, so that the fluid escaped only drop by drop. At first the patient took the anæsthetic very easily, respirations being full, deep and regular. He soon began to struggle to a slight extent, which was followed by a quiet period, to be followed in its turn by marked struggling, ending in a sort of tetanic spasm, with opisthotonos, and then collapse. During most of the tetanic spasm above referred to the inhaler had been entirely removed from the patient. It was then noticed that the patient was not breathing. Immediately the shoulders and body were brought over the side of the bed, lower than the hips and the head lower than the shoulders, and artificial respiration was practiced. Hypodermic injections of whiskey were given in the arm and over the region of the heart. There was at this time no radial pulse. Artificial respiration was continued for about an hour, but with no further result. The only signs of life during all this time were the few gasping expirations at the beginning and the fancied heart beat.

The greatest caution was observed in administering the chloroform, of which not more than a drachm was employed, the inhaler not being over the man's face more than three minutes. It developed during the course of the inquest that the deceased had never complained of any heart trouble during his life time, but had always been strong and well. The verdict of the coroner was death from paralysis of the heart.

DELIRIUM FOLLOWING A DOSE OF SULPHONAL.

MR. GEORGE FOY, reports in the *Medical Press*, September 11th, a case of delirium following sulphonal. He says:

"Few hypnotics so quickly gained professional favor as sulphonal. Until the present I have had nothing to say of its effects but such as were favorable. In enteric fever, bronchitis, delirium tremens, the insomnia of over-mental activity, and so forth, I have used it with marked benefit and found the sleep it produced refreshing, and that it had none of the unpleasant after-effects of opium or chloral, consequently I prescribed it freely. In July of this year I prescribed twenty-five grains to a young woman aged nineteen, who was suffering from menorrhagia. The dose was given in a state of fine powder at 9 P. M., the girl's usual bed hour being 10 o'clock. After undressing and lying down, instead of feeling sleepy she complained of hearing persons talking to her, and she soon became delirious, holding imaginary conversation with absent friends and strangers. This condition continued until 7 A. M. the next morning when she became drowsy and fell into a dose, being stupid and lethargic

until 10 A. M. at which hour her pulse was fairly good (86) and her pupils were normal as was her temperature; her skin was pallid, as were her lips, but there was no evidence of cyanosis."

He further cites a paper of Dr. J. P. C. Griffith, of Philadelphia, in the May number of the *Therapeutic Gazette* on "The Unpleasant Effects of Sulphonal." He thus sums up the disadvantages of sulphonal: —

"(1) Its hypnotic action usually develops slowly.

"(2) Its action is occasionally prolonged.

"(3) The difficulty of determining the proper dose.

"(4) The drug is liable to produce mental excitement, nausea, vomiting, dizziness, headache, languor, exhaustion, depression, and a staggering gait.

"(5) It often fails to produce an hypnotic effect."

As a rule, concludes Mr. Foy, sulphonal is unsuited for the insomnia which results from pain, cardiac lesions, angina pectoris and arterio-sclerosis. Every drug capable of producing well-marked physiological effects will be found unsuited for certain cases, and it is an unfortunate fact that nothing but practical experience will enable the profession to decide on the cases which are suitable and otherwise.

We are prone when a new drug is introduced to prescribe it very freely, especially when its presence is hailed as a great boon, as was sulphonal, and we occasionally forget that the well-marked therapeutic action which makes it so valuable will also increase the risk to life if it is prescribed improperly; and every imprudent use of the remedy runs the risk of causing its rejection, and the consequent loss to the profession of a valuable therapeutic agent.

If the drugs prescribed were unfailing in their effects, irrespective of individual peculiarities, medicine would cease to be an Art, and every chemist's apprentice might secure sleep or disperse inflammations with the same facility as the most accomplished member of the guild of medicine.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 9, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	615	211	10.40	13.12	1.28	1.28	4.48
Philadelphia	1,040,245	359	115	8 68	14.56	.28	2.04	4.64
Chicago	830,000	—	—	—	—	—	—	—
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	143	47	16.40	16.10	4.20	2.10	7.00
St. Louis	450,000	—	—	—	—	—	—	—
Boston	413,567	177	48	12.32	19.60	2.24	3.36	5.60
New Orleans	250,000	110	26	23.66	8.19	7.28	.91	7.28
Cincinnati	225,000	108	—	21.16	13.89	4.60	2.76	11.04
Washington	225,000	73	22	16.44	17.81	1.37	4.11	6.85
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	19	4	15.78	10.52	—	5.26	5.26
Charleston	60,145	29	5	10.35	3.45	6.90	—	—
Portland	40,000	13	3	—	38.45	—	—	—
Worcester	78,292	27	8	7.40	29.60	—	3.70	3.70
Lowell	71,518	26	10	19.25	3.85	7.70	—	11.55
Cambridge	65,552	21	6	23.80	23.80	—	—	19.04
Fall River	62,647	19	7	31.56	10.52	5.26	15.78	5.26
Lynn	53,334	11	—	—	18.18	—	—	—
Springfield	40,731	5	2	20.00	—	—	—	20.00
Lawrence	40,619	24	10	27.96	8.32	—	—	27.96
New Bedford	37,253	11	5	9.09	9.09	—	—	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	11	4	27.27	—	—	—	18.18
Brockton	28,813	9	2	—	33.33	—	—	—
Chelsea	28,167	8	1	12.50	—	—	—	—
Haverhill	26,058	11	3	9.09	—	—	—	—
Taunton	25,170	5	2	—	—	—	—	—
Gloucester	24,263	7	1	—	—	—	—	—
Newton	21,553	9	2	33.33	—	—	—	33.33
Malden	19,774	8	4	37.50	—	—	25.00	—
Fitchburg	17,534	7	—	14.28	28.56	—	—	14.28
Waltham	17,332	9	2	11.11	—	—	—	—
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	8	1	12.50	37.50	—	12.50	—
Quincy	13,728	4	2	—	—	—	—	—

Deaths reported 1,794: under five years of age 537; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 256, consumption 265, acute lung diseases 236, diphtheria and croup 115, diarrhœal diseases 48, typhoid fever 40, malarial fevers 14, whooping-cough 14, cerebro-spinal meningitis 9, scarlet fever 7, measles 5, erysipelas 4.

From malarial fevers, New Orleans 8, New York and Baltimore 2 each, Philadelphia and Charleston 1 each. From whooping-cough, New York 5, Boston 2, Cincinnati, Washington, Nashville, Cambridge, New Bedford, Haverhill and Malden 1 each. From cerebro-spinal meningitis, New York 4, Washington 2, Cincinnati, Fall River and Salem 1 each. From scarlet fever, Philadelphia 3, New York 2, Baltimore and New Orleans 1 each. From measles, New York 4, Cincinnati 1. From erysipelas, New York 4.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,535,406, for the week ending November 2d, the death-rate was 17.5. Deaths reported 3,202: infants under one year 852; acute diseases of the respiratory organs (London) 300, scarlet fever 79, diarrhœa 62, fever 59, measles 58, whooping-cough 53, diphtheria 51.

The death-rates ranged from 11.6 in Brighton to 32.0 in Preston: Birmingham 15.8, Bradford 18 0, Hull 22.3, Leeds 18.8, Leicester 14.6, Liverpool 20.8, London 15.8, Manchester 22.3, Nottingham 14.7, Portsmouth 15.1, Sheffield 19.9.

In Edinburgh 17.2, Glasgow 23.8, Dublin 27.3.

The meteorological record for the week ending Nov. 9, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps: –

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.		Velocity of Wind.		State of Weather.[1]		Rainfall.	
Saturday, Nov. 9, 1889.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.		3.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	7.00 A. M.	3.00 P. M.	7.00 A. M.	3.00 P. M.	Duration Hrs. & Min.	Amount in Inches.
Sunday,.. 3	29.875	59.0	66.0	52.0	85		85	85.0	S.W.	N.W.	24	9	F.	O.	9.00	.38
Monday,.. 4	30.150	49.0	58.0	40.0	70		51	60.0	W.	W.	12	8	C.	C.		
Tuesday,.. 5	30.170	43.0	46.0	41.0	61		53	57.0	W.	W.	19	8	O.	C.		
Wednes.. 6	30.125	40.0	46.0	34.0	63		58	60.0	W.	S.W.	15	10	O.	C.		
Thursday,. 7	30.060	47.0	57.0	37.0	60		41	50.0	S.W.	W.	10	8	C.	O.		
Friday,.... 8	30.195	48.5	51.0	46.0	63		86	74.0	N.W.	S.	5	9	O.	O.		
Saturday,. 9	29.995	50.5	55.	46.0	93		84	88.0	S.	N.	4	6	R.	O.		.02
Mean for Week.	30.081		54.1	42.3				67.7								

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 9, 1889, TO NOVEMBER 15, 1889.

By direction of the Secretary of War, Captain LOUIS M. MAUS, assistant surgeon, having relinquished the leave of absence on surgeon's certificate of disability granted him in S. O. 240, October 25, 1889, from this office, will, upon being relieved from duty at Fort Porter, N. Y., as directed in S. O. 242, October 17, 1889, from this office, proceed without delay to Fort Stanton, N. M., and report in person to the commanding officer Department of Arizona. Par. 8, S. O. 261, Headquarters of the Army, A. G. O. Washington, November 8, 1889.

Leave of absence for one month, to take effect about the 29th inst., is granted Captain C. N. B. MACAULEY, assistant surgeon. Par. 2, S. O. 166, Department Missouri, Fort Leavenworth, Kansas, November 8, 1889.

The following changes in the stations of medical officers serving in this department are hereby made, namely:

Captain L. W. CRAMPTON, assistant surgeon, from Fort Lyon, Col., to Fort Sheridan, Ill.

Captain W. H. CORBUSIER, assistant surgeon, from Fort Hays, Kansas, to Fort Lewis, Colorado.

First Lieutenant F. J. IVES, assistant surgeon, from Fort Lyon, Col., to Fort Sill, I. T. Par. 3, S. O. 167, Headquarters Department of the Missouri, Fort Leavenworth, Kansas, November 9, 1889.

By direction of the Secretary of War, the following assignments of officers of the Medical Department (recently appointed) are ordered:

First Lieutenant CHARLES WILLCOX, assistant surgeon, will report to the commanding officer at Fort Columbus, N. Y., for duty at that station.

First Lieutenant HARLAN E. MCVAY, assistant surgeon, now at Fort Mackinac, Michigan, will report in person to commanding officer of that post for duty.

First Lieutenant EUCLID B. FRICK, assistant surgeon, will proceed from Philadelphia, Penn., to Fort Keogh, Montana, for duty at that station.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE THREE WEEKS ENDING NOVEMBER 9, 1889.

PURVIANCE, GEORGE, surgeon. Granted leave of absence for twenty-one days. November 8, 1889.

AUSTIN, H. W., surgeon. To inspect unserviceable property at St. Louis Marine Hospital. November 4, 1889.

GASSAWAY, J. M., surgeon. Relieved from duty at New Orleans, La.; to rejoin station at Cairo, Ill. October 23, 1889.

BANKS, C. E., passed assistant surgeon. Granted leave of absence for thirty days. October 28, 1889.

STONER, J. B., assistant surgeon. Ordered to Vineyard Haven, Mass., for temporary duty. November 6, 1889.

CONDICT, A. W., assistant surgeon. Ordered to Cairo, Ill., for temporary duty. November 4, 1889.

GUITERAS, G. M., assistant surgeon. Ordered to Washington, D. C., for temporary duty. November 8, 1889.

GROENEVELT, J. F., assistant surgeon. Ordered to New York, N. Y., for temporary duty. Nov. 5, 1889.

SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. – A Regular Meeting of the Society will be held on Monday, November 25, 1889, at the Medical Library, 19 Boylston Place, at 8 o'clock P. M.

Reader, Dr. E. G. Cutler: subject, "Some Hospital Cases of Typhoid Fever." There will be discussion of the subject in its various relations, clinical, bacteriological, prophylactic, etc., by Drs. Francis Minot, Harold C. Ernst, G. B. Shattuck, C. F. Folsom, F. C. Shattuck, Charles Harrington, Henry Jackson and others.

Dr. J. B. Ayer, will read "Intussusception complicated by Pregnancy and Tuberculosis"; Dr. F. H. Hooper, "Accidents in Intra-Nasal Surgery. Presentation of an Instrument looking to their Prevention."

F. B. HARRINGTON, M.D., *Secretary*.

NORFOLK DISTRICT MEDICAL SOCIETY.— A Meeting for Scientific Improvement will be held at the hall of the Roxbury City Guards, 67 Warren Street, Roxbury, November 26, 1889, 7.45 P. M. Communications: (1) "Relation of Food Supply to Disease," W. S. Everett, M.D., (discussion to be opened by B. F. Davenport, M.D.); (2) "A Case of Bright's Disease with Complications," E. F. Dunbar, M.D.

JAMES C. D. PIGEON, M.D., *Secretary*,

APPOINTMENT BY THE BOARD OF MEDICAL OFFICERS, M. V. M.

Second Lieutenant Arthur W. Clark, appeared before the Board of Medical Officers, M. V. M., November 16, 1889, and was examined, qualified, and commissioned as Ambulance Officer, second Brigade M. V. M.

BOOKS AND PAMPHLETS RECEIVED.

Biennial Report of Medical Examiner-in-Chief, American Legion of Honor, 1887-89. J Foster Bush, M.D.

The Medical News Visiting-List for 1890. Weekly Edition. Thirty Patients per week. Philadelphia: Lea Brothers & Co. 1889.

Twentieth Annual Report of the State Board of Health of Massachusetts. Public Document No. 34. Boston: State Printers. 1889.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Ninety-first Annual Session, held at Baltimore, April, 1889.

The Psychological Factor in Selecting a Climate for Invalids. By Edward O. Otis, M.D., of Boston, instructor in the Boston Polyclinic. Reprint. 1889.

Description of a Case of Embolism of the Left Central Retinal Artery. By Charles A. Oliver, M.D., of Philadelphia. Reprint. Hartford, Conn., 1889.

The Gulstonian Lectures on Secondary Degenerations of the Spinal Cord. Delivered at the Royal College of Physicians, March, 1889, by Howard H. Tooth, M.D, F.R.C.P., etc. London: J. & A. Churchill. 1889.

Guide Médical à l'Exposition Universelle Internationale de 1889 à Paris, Par Marcel Baudouin, Sécretaire de la Rédaction du Progrès Médical, etc. Premier fascicule, Instruments de Chirurgie et de Précision. Paris: aux bureaux du Progrès Médical. 1889.

Original Articles

PRIMARY CANCER OF THE GALL-BLADDER AND BILE-DUCTS.

BY J. H. MUSSER, M.D.,

Assistant Professor of Clinical Medicine in the University of Pennsylvania, Physician to the Philadelphia and Presbyterian Hospitals.

STIMULATED by the unfortunate but unavoidable result of laparotomy in the case of the [illegible] about to be reported, with a long-time [illegible] the success of surgical measures for the relief of obstruction of the biliary passages, the writer was led to the study of the recorded cases of the forms of cancer indicated in the title.

One hundred cases of primary cancer of the gall-bladder, and eighteen cases of like disease of the ducts have been analyzed. In addition, a brief note is made of three cases of sarcoma of the gall-bladder, abstracts of which are added. The cases of Burridge and Tyson, referred to by others, have been excluded because of the strong probability of their secondary nature.[1] The two cases of Hayem and one each of Chassaignac and Boucherau,[2] included in Villard's table are not in this list. Heschl, in the report of a case, speaks of two cases with gall-stones which he had seen; Fagge summarizes twelve cases; Marchand reports one, and Fazio refers to another in his report. Moore has studied ten cases, of which four probably are placed in the present collection. In the St. George and St. Bartholomew Hospital Reports descriptions of lesions in two cases may be found. The five cases of Professor Stiller were secured too late for classification. The five cases of cancer of the bile-ducts reported by Professor Delafield are not included in the second tables because they were reported collectively. Finally, no attempt has been made to include any of the cases referred to in a more or less general manner by the systematic writers on pathology or internal medicine, — Rokitansky, Förster, Klebs (two cases), Birch-Hirschfeld, Von Schueppel, Frerichs, Bartholow, Loomis, Murchison and others.

It is thus seen that in addition to the cases tabulated by the writer, thirty-three cases of primary cancer of the gall-bladder and five of the ducts have been placed on record in a more or less tangible form, while doubtless a large number have been observed in our large hospitals that have never been publicly noted.

A collection of 159 cases disabuses one of the idea of an affection being rare, and yet systematic writers always refer to the great rarity of primary cancer of the biliary passages. Ranvier and Fagge declare it to be much more common than it is usually considered, and that its presence is mistaken for carcinoma of the liver. One source of fallacy is mentioned by the latter writer, namely, that cancer of the gall-bladder growing into the hepatic tissue is called cancer of the liver because the gall-bladder in the centre of the tumor, is overlooked on account of its small size. Again, we fear it is not customary to explore the ducts with that accuracy which is essential to determine the presence of small new growths.[3]

The frequency of this form of primary cancer, compared with its frequency in other organs, may be inferred by the statistics of Norman Moore, in the latest Bradshawe Lecture.[4] He details the results of the examination of one hundred and twenty-nine cases of new growths in the internal organs of the body, studied during a period of several years. Ten cases in which the gall-bladder and large bile-ducts were the seat of new growth are noted. Compared with the number of cases of like affection in other organs, collected during a similar period, it is not an insignificant number. The internal organs which are the common seat of primary new growths are the stomach, the œsophagus and the uterus. Twenty-nine cases of cancer of the stomach and fifteen of the œsophagus were observed by Moore. Eleven new growths in the lung, eleven in the pancreas, nine in the colon, eight in the rectum, and fewer numbers in other organs, shows that primary cancer of the biliary passages is much more frequent than we have been led to believe. Uterine cancer was not studied by Moore.

It is not without interest to refer to the fact that the literature of primary cancer of the biliary passages is quite recent. Villard, in 1872, published the most complete paper on the subject. He was unable to collect more than twenty-five cases up to that time. Since then Kohn, Kraus, LangHeinrich, Zenker, Bernheim, and Stiller have made the most important contributions. Prior to 1872 the subject seemed to attract the attention of the French writers chiefly; since then the Germans have taken precedence although Fagge and Moore, Habershon and Murchison, in England, have made careful studies of it.

The following cases were observed by the writer. One of them was previously reported, but the interest of the case warrants a reproduction of it.

CASE I.[5] *Primary Cancer of the Gall-Bladder; Hepatic Colic; Pain in the Right Hypochondrium; Jaundice; Enlargement of the Liver; Absence of Tumor; Fever; Vomiting and Diarrhœa; Death from Exhaustion.*

Mrs. McM. was under my care from the 9th of March until the 4th of May, 1881. Her illness dated from the middle of December, 1880, and continued until the 18th of May of the following year. The history previous to my attendance was apparently that of an intermitting fever, with hepatic and gastric complications. The symptoms referable to the liver were paroxysmal lancinating pains in that region, at times so severe as almost to cause collapse. The gastric symptoms were epigastric pain, loss of appetite, flatulence, acid eructations, and, at variable intervals, attacks of vomiting. She had not been jaundiced.

I found her suffering from an intermittent fever, with daily paroxysms, each beginning about 1 P. M. and continuing until 7 or 8 P. M. The chill lasted a half-hour and was moderately severe; the fever lasted four hours, at its height the temperature being 103°. She was emaciated; her features indicated exhaustion and were somewhat pinched; her complexion was sallow; she was anæmic. She suffered from severe paroxysmal pains in the epigastric and hypochondriac regions. The areas were tender on pressure but no tumor was noticed. The liver dulness extended three inches below the ribs in the nipple-line. The spleen was twice its natural size. The appetite

[1] Burridge: Cancer of breast some years previous. Tyson: Epithelioma of lips, last removal one year before death.

[2] Hayem: female, age fifty-two; male, age fifty-six. No detailed account of cases of Chassaignac and Boucherau.

[3] See also Orth, Diagnosis in Pathological Anatomy, Boston, 1880, pp. 307 and 330. Orth says it can easily be overlooked, and that so-called primary cancers of the liver are frequently secondary to cancer of the biliary passages.

[4] On the Distribution and Duration of Visceral Growths. Bradshawe Lecture, London Lancet, vol. ii, No. 9, 1889, p. 415.

[5] Trans. Path. Soc., Philadelphia, vol. x, 1873, p. 81.

was lost. She had nausea, acidity, and flatulence. The bowels were constipated. Urine contained neither albumen nor sugar. Urates and uric acid were in abundance.

During the course of her illness the symptoms may be detailed under three headings, — febrile, gastric, and hepatic. There seemed to be no relation between the different sets of symptoms, except the febrile and hepatic. The fever was more continuous when the jaundice was deepest. At the risk of some repetition, I will note them.

Gastric. — Tongue covered with a dark-yellow, heavy fur; moist, tremulous; later, dry and brown. Bitter taste in the mouth, secretions viscid; loss of appetite; thirst; acidity; flatulence; weight and fulness after meals; epigastric pain and tenderness; nausea and vomiting. The latter, of all the gastric symptoms, was especially independent of any other symptoms. It occurred once in two weeks, once a week, or twice a week. Each paroxysm lasted from two to four days. The fluid vomited varied from a clear white, sour, to a greenish-yellow, bitter liquid.

Hepatic. — Pain in the right hypochondriac region, paroxysmal, sharp, and lancinating, radiating to the right and left shoulders and to epigastrium; tenderness on deep palpation, absence of tumor or irregularity of edges, enlargement as noted above. On account of liver-derangement there were marked jaundice, with clay-colored stools and bile in the urine. The jaundice occurred four times while the patient was under my care. The first attack was light, lasting three days; the second and third each lasted a week; the fourth, beginning on the 25th of April, continued till death. Each attack was preceded by hepatic colic. With the second and third attacks the fever was remittent in character; with the last it was continuous. As the jaundice improved, the fever changed from the remittent to the intermittent type.

Febrile. — As may be inferred from the previous notes, the fever was irregular. At first it was intermitting, then remitting, and, finally, it became continuous. At no time was the temperature higher than 104°. With the rise in the temperature there was a corresponding pulse-rise. The increased pulse was not as great, by twenty beats, as a pulse at the height of a paroxysm of intermittent fever. The last month of illness it became rapid, feeble, compressible, and dicrotic. When the fever was remittent or continuous, in the evening there was delirium. The "typhoid" state developed the last ten days of her life, and death took place from cardiac failure. The use of antiperiodics prevented the paroxysms at first. As soon as the drug was suspended they recurred. Finally, in spite of my remedies, the fever continued.

The following facts also bear upon the case: The patient was a married woman, who had not lived with her husband for several years, on account of his brutality. She was thirty-seven years old, a nurse by occupation. She had always been in poor health, and had had several attacks of biliary colic. The family history was good, save that a maternal aunt died of cancer. Her mother and brothers were living; her father had been killed.

Autopsy. — Rigor mortis had set in early; the body was greatly emaciated, and all the tissues were stained with bile. With the exception of the liver and spleen, the organs were normal for a person who had died of heart-failure. The spleen was about twice the normal size, of a dark greenish-brown color, and of about normal consistence. Unfortunately, it was not examined microscopically.

The liver was of a peculiar shape. The right lobe was eight inches long, the left the same. Curiously, however, the lower edge of the latter lobe did not extend as low down as that of the right lobe, but its upper edge was three and one-half inches beyond the same edge of the right lobe, while the lobe was doubled on itself to conform with the concavity of the diaphragm. Transversely, the right lobe measured five and one-quarter inches; the left, three and one-half. The former was two and one-half inches thick, the latter, one and one-half. The gall-bladder was in the normal position and of normal size. It was adherent to the duodenum. The color of the outer portion was pure white, not bile-stained. It was not collapsed, and was of firm consistence. A portion of the bladder underneath the liver, not quite as large as a walnut, was of natural color, and exhibited fluctuation.

On section of the gall-bladder, it was found that the white appearance of the exterior was due to cancer, which involved three-quarters of the organ. The growth encroached upon the cavity, so that the walls were from one-half inch to one inch thick. The mass had the appearance of a soft cancer; the inner surface had a ragged, ulcerated appearance, and in the centre of the mass was found a gall-stone the size of a filbert, with a rough surface, looking like a mulberry calculus. The stone was lying against the mouth of the gall-bladder; behind the stone was a cavity about the size of the stone, filled with a thick greenish-yellow fluid. From the appearances one would infer that the stone acted as a ball-valve to the duct; and its presence was the cause of the attacks of hepatic colic, during the course of the disease. The hepatic duct was enlarged, its walls thickened, its calibre much increased. The branches extending into the upper half of the right lobe were greatly dilated, even almost to the periphery of the liver, terminating in saccular dilatations. The ducts contained a thick grayish-green matter; the walls were of a slate-gray color, dotted with dark points. The liver-substance traversed by these ducts was dark and soft, not unlike gangrenous tissue. A part in the centre, about three inches square, was especially of this appearance. The remainder of the structure of the organ was slightly stained with bile and fatty in appearance. On microscopic examination the malignant mass was found to be of the nature of a medullary cancer. The cystic and part of the hepatic duct was involved. The transition from the cancerous to the catarrhal process in the ducts was well-marked. In the liver catarrhal inflammation of the ducts was very distinct. In the lymphatic spaces around the ducts there was an abundant infiltration of epithelioid or indifferent cells. The cancer of the gall-bladder was no doubt primary, from the ragged appearance of the mass and the absence of nodules.

CASE II. *Primary Cancer of the Common Gall-duct; Jaundice; Remitting Fever; Epigastric Pain; Tumor, Laparotomy; Death from Peritonitis.* (*Abstract.*)

M. H., aged forty-nine, male. Family history and habits good.

Previous History. — One year ago, in July, 1887, he

was taken sick with cramp in the stomach, and vomiting; jaundice associated with intense itching gradually developed, and reached its height in December. In January he had an attack of alleged typhoid fever. The jaundice continued during the latter part of the winter and spring. During the spring there was epigastric tenderness and soreness, and the same sensations in the region of the gall-bladder. Treated in the Presbyterian Hospital from May 17 to June 13, 1888, for cirrhosis of the liver. He was then extremely jaundiced; fairly well-nourished; abdomen swollen; appetite poor; bowels constipated; and he had paroxysmal pain in the region of the gall-bladder. He improved while in the hospital, but took cold on his way home, in June, and had chills and fever, with a return of the jaundice and epigastric pain. On August 17th, he had chills beginning about 3 P. M., and lasting sometimes until midnight. Had fever, no pains, but constipation; after the relief of the latter he affirms that the chills disappeared, and that their occurrence was sometimes preceded by distention of the abdomen.

October 3, 1888. On readmission to my wards in the Presbyterian Hospital, the following notes were taken: Slight emaciation; general jaundice; no œdema; no itching; anæmia; no general distension of abdomen, but distension of epigastrium to one and one-half inches above level of the umbilicus; right hypochondrium fuller than left. A rounded prominence the size of a dollar, movable with respiration, is opposite the umbilicus in the right nipple line. Its lower border is well defined on the left side, smooth and tense, and its upper right border is continuous with the liver, which is full two and one-half inches below the margin of the ribs. The edges of the liver are smooth and somewhat thickened. Inside and to the left of the previously described tumor, the liver border runs parallel with the ribs, and two and one-half inches below it, to the median line. Upper border of hepatic dulness in right nipple line of fifth rib; in axillary line of seventh rib. No gastro-intestinal symptoms.

October 8th. On aspiration of tumor, serum, containing albumen, was withdrawn; gradual loss of appetite.

October 15th. Laparotomy; death from peritonitis in forty-eight hours.

Abstract of Autopsy. — Thickening and occlusion of the common and hepatic ducts by primary carcinoma, secondary nodules in liver, especially on under surface; chiefly peritoneal. No other secondary nodules except two small ones in the head of the pancreas. Gall-bladder enlarged and contained sero-purulent fluid, but no gall-stones. Other organs bile-stained, etc., as in chronic jaundice.

Résumé. — Chronic jaundice, epigastric pain, improvement; relapse, with intermitting fever, enlarged liver and gall-bladder containing serum. Absence of hepatic colic. No gall-stones.

PART I. PRIMARY CANCER OF THE GALL-BLADDER.

One hundred cases form the basis of these studies. In sixty-four cases the variety has been clearly indicated. Twenty-three were of the encephaloid, nineteen of the scirrhus, six of the colloid, and four of the villous form, and twelve were cylindrical epitheliomas. In thirty-six cases the type was not noted.

Morbid Anatomy. — The gall-bladder has been described as reduced in size (18), of normal size (2), enlarged (10), dilated (6), or enormously dilated (7).* The terms used to describe the size represented the objects: hazel-nut, pear (3), apple, goose-egg, two fists, hen's eggs, two eggs, child's fist, man's fist or hand, child's head, turkey's egg. The changes in size depend on the variety and seat of the new growth. The well-known appearance of each variety need not be detailed. If the fundus or the walls are involved, as a whole or in part, a nodular mass or masses — small and contracted if scirrhus, large if encephaloid; hard and dry if the former, soft and juicy or pulpy if the latter — are seen. The usual secondary changes, softening, etc., etc., were noted frequently. When the growth invades the neck of the bladder as an annular ring or an outgrowth or a node, causing stenosis of the orifice, the remainder of the organ may be either atrophied or much dilated. A growth situated at the neck was particularly detailed six times and at the fundus an equal number of times. Nine times the mass was said to be hard, or firm and rough, or nodulated. The gall-bladder was "destroyed and replaced by new growth" in twelve cases; enclosed in the growth in three; not distinguishable in one; a soft, whitish, pulpy mass in one; and destroyed by cancerous ulceration in one instance. Presumably in these instances the growth was of, at least, firmness. Certainly in the following cases the firmness or hardness was undoubted, when the walls were infiltrated (4), or thickened (19), or "converted into a solid mass" (1). In three instances the mass was composed of pouches, and in many instances one or more pockets, the remains of portions of, or the entire gall-bladder, are described. In one case a membrane subdivided the sac into two portions.

Six times simple ulceration of the interior of the gall-bladder is described; twice ulceration with perforation into the peritoneal cavity; six times with perforation into the duodenum; and ten times with perforation communicating with the colon.

Adhesions to surrounding organs are common, excluding adhesions with perforation as follows: to the duodenum (5), the colon (4), the stomach (4), the round ligament (1), the liver (2), the liver and stomach (1), the vertebral column (1), aorta and vena cava (1). General adhesions were noted in one. In one instance the growth turned the vena cava out of its course, and in one compressed the hepatic artery and vein.

The contents of the gall-bladder or its pouch varied. Gall-stones were present in sixty-nine cases, and noted as absent in three. In twenty-six cases the contents were fluid: mucus (7); pus (7); bile (2); blood (1); liquid-like serum, thin watery fluid, green watery fluid, clear white, thick fluid, thick, gray fluid, encysted fluid, one each (all mucus or mucoid); once each sanious, grumous, or meat-broth like; and once it was simply noted as "fluid"; in one case "plaster-like" contents were found.

The extraordinary frequency with which gall-stones are found has been mentioned by all writers. They are seen free in the cavity of the affected bladder; free or fixed in pouches or diverticula, so-called, the walls of which are normal or the seat of disease; imbedded in the malignant mass, or filling the lumen of the ducts. In one instance one was found in the fistulous communication between the liver and the colon. They

* The numbers represent frequency of occurrence of each condition.

have been distinctly referred to as old stones by some of the writers. Ord alone reports a calculus which from its chemical nature could be inferred to be of recent and non-biliary origin. It was composed of carbonate and phosphate of lime and altered mucus, and did not contain bile elements. The relation of the calculi to the new growth will be discussed later.

Liver. — One would naturally look for secondary changes in the liver proper, and yet, save by metastasis, its structure was but infrequently changed.

Size noted as normal (5), small or atrophied (4), enlarged (14), double the natural size (2). It was the seat of secondary deposits fifty-four times, in two of which the invasion was particularly stated to be by contiguity.

In a large proportion of cases the invasion undoubtedly was by contiguity, and the progress along the ducts has been particularly described. In Williigk's case the induration about the ducts extended, "tree-like," into the structure of the liver. Multiple hepatic abscess was present in two cases.

Bile Ducts. — The changes in the ducts are due to the presence of secondary growths, or to the "growth in continuity" (a term insisted upon by Moore) of the neoplasms; to obstruction of their lumen; or to secondary catarrhal or purulent inflammations.

Hepatic Ducts. — Noted normal in five, dilated in twenty-one, the seat of secondary disease in thirteen, and of purulent inflammation in three instances. Obstruction and compression were each present in one instance, and a gall-stone was found in one.

Cystic Duct. — Normal four, and dilated thirteen times. In one exceptional instance it was dilated to the size of the transverse colon, and contained gall-stones. Six times it was obliterated, once each narrowed, closed or impermeable, and four times obstructed. Twelve times it was the seat of secondary growth, twice indurated and thickened, and three times enclosing gall-stones.

Common Duct. — Normal eight; dilated eleven; the seat of secondary growth seven; and obstructed seven times, by pressure four, not known two, stone one. The duct was obliterated three times, was thickened once, and contained calculi three times, and pus and blood and "fluid" once each.

Metastasis. — This was noted as present in fifty-five cases; in every instance but one the liver was one of the affected organs. The cases in which the growth in other organs took place—the duodenum, colon, lesser omentum and peritoneum—by direct continuity are not included.

The cases of extension by continuity include the ones in which ulceration and perforation of the hollow viscera — the duodenum and colon — took place; and of ulceration and fistulous communication of the gall-bladder with the abdominal walls, the only one reported.

The frequency with which the various organs were found to be the seat of isolated secondary growths is as follows: Abdominal lymphatics, 16; mesentery, 4; omentum, 5; duodenum, 4; colon, 3; peritoneum, 3 (12 if the omentum and mesentery are included); stomach, 6; pancreas, 3; lungs and pleura, 10; suprarenal bodies, 2; and once each in the mediastinal glands and the ascending colon. In one case, in addition to secondary growths in the stomach, liver, pancreas and peritoneum (included in the above) they were found in the navel, rectum, uterus and kidney. It was the only case of the almost universal presence of the disease.

It is thus seen that secondary growths are not common, and are not universal or found in distant parts. It is impossible from this series of cases to prove the first conclusion of Moore (*loc. cit.*), that carcinoma of the gall-bladder and large ducts usually grows directly into the liver. The second proposition, that secondary deposits are not wide-spread, is supported; but the order of frequency must be reversed in the third conclusion. In the following, named in the order of greatest frequency from the first, metastasis occurs to the liver, the abdominal lymphatics, the peritoneum, the lungs, the stomach, the duodenum and to the pancreas. These estimates, as all that are made in this paper, of course, are relative only, and subject to the same valuation that one gives to any collection of facts the correctness of which depends upon various judgments and observations. Care has been taken to prove the facts in each case.

To conclude, in primary cancer of the gall-bladder one finds the organ most frequently diminished in size and hard, or of normal size; sometimes (in 20% of the cases) it is enlarged. The enlargement is generally due to dilatation, and then the mass projects beyond the margin of the liver. Gall-stones are found in 69%, and fluid contents in 26% of the cases. Extension by continuity or by secondary deposition takes place in about 75% of the cases, although it is never wide-spread. Adhesions form in 20%, and adhesions with ulceration and perforation in 18% of the cases.

Etiology. — No facts can be deduced from these cases to aid us in the formation of a theory as to the etiology of cancer. Certain positive relations of probable cause and effect can be pointed out, while in this particular location of carcinoma its greater frequency in the female sex is established.

Of the influence of heredity or occupation, or hygiene, food, drink or personal habits, climate or country, nothing can be learned. The cases occurred almost entirely in hospital practice, and thus a general notion of the character of the individuals can be formed. The frequent reports of cases from this class is due to the fact that private cases are never so well studied from the nature of things.

Age. — In ninety-one cases the age is recorded. An average of the ages would not be strictly accurate; a statement of the frequency in different decades gives the best notion of the period in life when the disease is most frequent.

1 to 10 years	1	60 to 70 years	19
10 to 20 years	0	70 to 80 years	14
20 to 30 years	1	80 to 90 years	1
30 to 40 years	9	Unrecorded	9
40 to 50 years	19		
50 to 60 years	27		100

The larger number of cases occur from the fifth to the eighth decade inclusive, and in the sixth decade the largest number in any one decade is found.

Of 64 cases in which the variety is recorded, the ages of sixty are given. No variety preponderates in in any particular decade. Some (five) of the encephaloid type occur a decade sooner (thirty to forty) than the scirrhus, but they continue as late in life as the latter (seventy to eighty), and one was found as late as past eighty. Five of the six colloid carcinomas were found between sixty and seventy. The youngest case reported by Dr. Moxon was in a patient aged four years. It was a villous carcinoma. Curiously, the

earlier cases reported occurred after sixty, and hence the conclusion arrived at and adopted by systematic writers was that the disease occurred late in life. Thus, in Villard's table, of 20 cases in which the age is given, nine patients were over seventy, and five between sixty and seventy. Of our cases 57% of the entire number were under sixty years of age. The average of Kohn's cases was 57.7 years. Hess states the average age of carcinoma of the liver as 45.4 years. It (carcinoma of the gall-bladder) probably occurs later in life than carcinoma of other organs, but not so late as formerly thought; and indeed, when one compares this table with that of Welch, in his article on "Cancer of the Stomach,"[7] one sees not much difference in the age of patients with the two forms of cancer under consideration.

Sex. — The sex of 98 of the entire list is given; 23 males and 75 females. The ratio of males to females (11 females to 7 males) is more nearly equal in the scirrhus variety than any other. All of the colloid variety occurred in females. Otherwise there is no significance in the sex of the persons in which the respective varieties occurred.

The enormous preponderance of females has always been recognized and commented upon, and in connection with the frequent association of gall-stones, is considered a marked ætiological factor. Certainly it is a valuable clinical index.

Gall-Stones. — One school of pathologists believes that the stones precede and are the exciting cause of carcinoma of the gall-bladder in a predisposed individual, — Durand-Fardel, Klebs, Von Schueppel, etc.

Another believes that the stones are formed secondarily to the new growth, — Lutton, Förster, Davaine, LangHeinrich, etc.

The calculi were found in 69 cases; they were noted as absent in three. Zenker believes they are often overlooked. Their absence at the autopsy does not indicate necessarily that they had not been present in life, and escaped by ulceration. Scars or ulcers often are found, which indicate that stones had been present before death. A single stone with facets was found in Wiggleworth's case, without perforation. The others must have escaped during life. In one of Zenker's cases fragments of calculi were found.

Because calculi are so common in females, and cancer of the gall-bladder largely in excess in that sex, it was thought by the early observers that the former induced the latter. Gall-stones undoubtedly occur more frequently in persons who die from cancer of other internal organs than in persons dying of other causes. The diathesis favors their formation, and Kohn particularly urges the fact that the cancerous diathesis creates such relaxation of the tissues as to favor the stagnation of bile. He believes the two conditions are in progress at the same time.

If the calculi are an exciting cause, they must precede the formation of the carcinoma. Three cases of carcinoma are reported in persons who had been the subjects of hepatic colic for a long time previously. Klebs found an old stone, with commencing carcinoma, in the neck of the bladder; he thinks it positive evidence that the foreign body was the exciting cause.

Some anatomical evidence seen at the autopsies throws light on the subject. Stones are found in the bladder, the duct of which is and has been obliterated for some time. They are often in large numbers, surrounded by mucus and old lymph, bathed in pus, or covered with serum. No traces of bile have been found in the same sac. They are found in pouches surrounded by healthy walls cut off from the bile-duct, or fixed in the new growth structure. The gall-bladder cavity usually diminishes in size so that it is not a large enough reservoir for calculus formation, while shrinkage is seen in cases in which the cancer does not contract. In a number of cases the cystic duct was obliterated, and yet stones were in the gall-bladder. Gall-stones are found in the ducts outside and far beyond the seat of disease, and yet must, from their appearance, have formed in the gall-bladder, and passed out. The case of Quetsch shows that gall-stones precede carcinoma, for they had been discharging from a biliary-cutaneous fistula for three years.

In the remarkable case of Goodhart, in which the cystic duct was enormously dilated, and contained a great number of calculi, which developed with the cancer, the evidence appears to favor the idea that gall-stones form most rapidly in cancerous subjects. No number of facts have been brought forward to prove the formation of gall-stones after cancer. Ord's case alone shows the presence of a calculus which, however, was not biliary. The problem seems to stand about as follows:

Gall-stones are found in cancer of the gall-bladder. The clinical history and the anatomical appearances appear to show that they formed prior to the formation of the cancer.

Cancer occurs without gall-stones, and, *vice versa*, gall-stones occur without cancer. The frequent association of calculi and carcinoma, and the undoubted fact of their formation prior to the morbid growth, warrant the belief that their presence is as much a causal factor as are irritants in other situations, for example, in the lips, etc.

In objection to the view that gall-stones have a causal relation to carcinoma, some urge that such relation does not exist under like circumstances with calculus of the kidney and bladder. One must remember that the mucous membrane of the gall-bladder is richer in glands than that of the pelvis of the kidney or the bladder, and hence more likely to invite an irritation resulting in carcinoma. Zenker believes an adenoma develops and changes into an adeno-carcinoma, which is the primary atypical growth. Furthermore, the irritation of a gall-stone may continue silently for years, while a calculus in the kidney or urinary bladder is soon the cause of such deleterious secondary changes that they impair the health before a carcinoma can arise.

Among other causes considered are local external injuries, as by a blow (Robinson and Fitzgerald), or a fall (Moxon's case), or the irritation produced by tight lacing. Marquand reports a case of the latter. The depression of the ribs crosses the liver and ducts, and in the illustration accompanying the report of the case the bladder is seen to be constricted. In this constricted portion the disease began. The patient of Robinson and Fitzgerald had been kicked seventeen years before death. From thence until his final illness he was subject to pain in the right hypochondrium. The local peritonitis and inflammation was no doubt a predisposing factor. In Martin's case, after a fall on the right side, symptoms of biliary obstruction and carcinoma began.

(To be continued.)

[7] System of Medicine, Pepper, 1886.

A SUPPLEMENTAL INQUIRY INTO THE FREQUENCY WITH WHICH LEAD IS FOUND IN THE URINE.[1]

BY JAMES J. PUTNAM, M.D.,
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AT a meeting of the Association of American Physicians, in June, 1887, I reported an analysis of eighty-six cases, not presenting unequivocal symptoms of lead-poisoning, where the urine had been examined for lead. In forty-eight of these cases lead was found; in thirty-eight it was absent.

The question which I had in mind in making the investigation was whether long-continued exposure to very small quantities of lead gives rise to other symptoms than those that are commonly reported; and, if so, whether such symptoms are sufficiently characteristic to lead to, at least, a presumptive diagnosis.

The conclusions which that investigation seemed provisionally to justify were the following:

(1) It is not probable that lead is to be detected in the urine of more than fifty per cent., at most, of persons not presenting symptoms of disease, and the finding of lead in a larger percentage, for any special group of cases, would be presumptive evidence that lead was connected, directly or indirectly, with the production of the symptoms.

(2) That lead is an occasional cause of chronic sensory neuritis, and chronic or subacute myelitis, and may give rise to the symptoms of spastic paraplegia.

(3) That lead is an occasional cause of pure neurasthenic symptoms, and the presence of a fine muscular tremor strengthens the probability of this diagnosis.

(4) That workers in rubber are liable to suffer from lead poisoning.

The investigation which is the subject of the present paper was undertaken, primarily, to control the first of these conclusions, as to the frequency with which lead is to be found in the urine of healthy persons.

For this purpose I first obtained thirty specimens of urine from medical students, and had them analyzed by Dr. A. M. Comey, who had so carefully performed the earlier analyses. These gentlemen were living, as a rule, in boarding-houses in the city, and came originally from various parts of the country. Potassium iodide was taken in each case for four days before the urine was collected. Slight traces of lead were found in three cases, or ten per cent. In one of the three cases a second analysis failed to detect lead; in the other cases no second analysis was made. The students in whose urine the lead was found appeared to be in perfect health.

In order to make the same inquiry with regard to a class in the community living under poorer circumstances, I obtained, through the kindness of Prof. F. C. Shattuck, specimens of urine from a number of patients at the Good Samaritan Hospital. Thirteen of these patients were suffering from phthisis or pleurisy; in three cases lead was found in the urine. In four cases, presenting simple anæmia and debility, lead was absent; but as lead might have been the cause of these symptoms the cases are excluded. In a case of acute Basedow's disease, brought on by severe fright, lead was also absent. The same was true in two cases of paralysis agitans, and one of acute chorea.

Besides these cases, I have had analyses made[2] of the urine from a number of patients presenting themselves at the out-patient department of the Massachusetts General Hospital, suffering from some disease, either strictly local, or, so far as we know, not attributed to lead, and from a few suitable private patients.

In all, we have fifty-seven new analyses from persons who might be said to be from our point-of-view without symptoms. In ten of these, or 17.5 per cent., lead was found, usually in slight traces.

It is doubtless true that if more refined methods of chemical analysis could have been employed, and larger quantities of urine, besides other secretions and excretions have been subjected to analysis, the number of cases belonging to this group in which lead was present would have been greater. If to these we add the eleven cases reported upon two years ago, we have a final total of sixty-eight cases, in 17.6 per cent. of which lead was found to be present, and so far as we now know, therefore, this proportion may be taken as about representing, or probably rather under-representing, the frequency with which minute quantities of lead are present in the tissues of practically healthy persons.

If, to compare with this group, we add together all the cases from the two investigations of which it cannot be said positively that they presented no symptoms which would commonly be said to be attributed to lead, we have a total of 117, in 62, or 53 per cent., of which lead was found. Even if we add in the cases presenting no characteristic symptoms, raising the total to 186 cases, we still find that lead was present in 40 per cent., or more than twice the proportion found in the first group. This comparison makes it probable that lead is at least a partial cause of a variety of symptoms not usually attributed to that cause.

Case.	SYMPTOMS.	Former series.	New series.	Total.	Lead present.	Lead absent.	Per cent. in which lead was present.	
1	No symptoms not attributable to other causes	11	57	68	12	56	17.6	
2	Fine muscular tremor; nervous debility	8	2	11	11	0		
3	Chronic multiple neuritis; neuritis with chronic and subacute myelitis; spastic paraplegia; multiple sclerosis	19	24	43	27	16		
4	Progressive muscular atrophy	4	1	5	0	5		
5	Cerebral and cerebro-spinal cases	7	2	9	7	2	53½	40
6	Epilepsy	8	4	12	4	8		
7	Sciatica	2	1	3	0	3		
8	Acute polio-neuritis	0	2	2	0	2		
9	Digestive disorders	0	2	2	0	2		
10	Simple anæmia and debility	0	4	4	0	4		
11	Remaining cases from former series	26	..	26	13	13		
12	Rubber-workers	0	8	8	5	3		
13	Optic neuritis	0	2	2	2	0		

No statistical importance is to be attached to these ratios, except as stated in the text.

No doubt the composition of this table is open to a number of criticisms; one of which might be that quite a large proportion of the patients presenting symptoms of organic disease were laboring men, whose lives would expose them to a relatively large number of the many sources of lead-contamination, and, at the same time, to other, and perhaps the real causes of their disease. Nevertheless, the numbers are sufficiently striking to make it worth while to examine the groups of

[1] Read before the Boston Society for Medical Improvement, October 28, 1889.

[2] The later analyses were made by Dr. C. P. Worcester, under careful and repeated control experiments.

cases in which lead was found for indications of its influence.

I recognize that this attempt should be made in a conservative spirit, for it is evident that the presence of small quantities of lead is not only compatible with health, but does not necessarily complicate other existing diseases. Thus, one of the cases noted in the earlier paper was that of a gentleman suffering from sarcomatous disease within the pelvis. Lead was twice found in the urine in the course of his illness, yet, in spite of the presence of this poison in his tissues, and the depressing influence of the organic disease, which eventually proved fatal, he exhibited no marked signs of anæmia or impaired nutrition until a comparatively short time before his death.

One group of cases, the patients being a father, mother and three children, is especially interesting in this connection, as indicating the importance of taking lead-poisoning into consideration in obscure cases, and as indicating the difference in susceptibility between different members of the same family. The water used by this family at their country house, where they spent a considerable part of the year, ran for quite a distance through lead pipes, and was found to contain a large quantity of lead. Repeated analyses showed that lead was present in considerable quantities, in the urine of two of the children, the father and the mother, though for some reason, not easily to be explained, not in that of the third child. All these children were in fair health. One of them, however, has been very subject to sharp attacks of gastric indigestion, pain in the left side, and vomiting preceded by sore throat; and also to constipation, which was worse during the attacks of indigestion. When the lead was found, small doses of iodide of potash were given, but seemed to precipitate the attacks above mentioned, and was, after a number of trials, abandoned by advice of her physician, who believed her attacks to be due to imperfect power of digestion. A possible cause for this imperfect digestion was, obviously, the lead. She became, finally, perfectly well, but still has to be careful with her food. Another child, a sister, in whose urine, also, lead was found, is said to have had a few attacks of indigestion and occasional clay-colored stools. A third child, a boy, who was thought to have drunk even more of the water than his sisters, had no lead in his urine, according to two analyses, and no symptoms. The father and mother were perfectly well, though their urine contained a considerable amount of lead. It is a remarkable fact that in the extensive outbreaks of lead-poisoning from drinking-water, occurring in certain English towns, children have seemed to suffer much less than adults, but the lighter grades of symptoms were probably not taken into account.

There is obviously a danger that in seeking to account for pathological conditions of obscure origin that arise in the presence of an agent like lead, we may, by including symptoms that are due to some other cause, obscure instead of illuminate the true clinical picture.

For this reason, I think that it is best to suspend judgment for the present as to the etiological diagnosis of the cases classified in the table, and wait for the further accumulation of evidence.

The largest group of cases analyzed in the earlier paper was that comprising nineteen cases of chronic generalized neuritis, neuritis with chronic myelitis, myelitis with symptoms of spastic paraplegia, and multiple sclerosis. In fifteen of these cases lead was found to be present, and in four it was absent. I can now add to this group twenty-four similar cases, equally divided between those in which lead was present and those in which it was absent. To these ratios we cannot attach much importance, because the cases do not form a strictly homogeneous group, and those which are essentially alike, are not in sufficient number to warrant statistical conclusions of real value. The greater part of the cases of this group may be subdivided as follows, into:

(1) Those in which subacute myelitis was present, usually associated with profound disturbance of the general nutrition, and generalized neuritis.

(2) Those characterized by the symptoms of spastic paraplegia, without signs of any marked impairment of general nutrition.

(3) Cases, apparently of chronic neuritis.

(4) A case of subacute neuritis, with neuralgic symptoms.

It will be noted that the changes in the spinal cord characteristic of the first two groups are of the nature of chronic scleroses, especially of the long cerebro-spinal tract, and inasmuch as such changes are not usually attributed to lead, it may be well to inquire what part, in the judgment of the best authorities, lead-poisoning does play in exciting diseases of the cord.

I do not propose to reopen the whole discussion of this subject, but will ask you to admit as representing, at the least, a sufficiently cautious and conservative position the views expressed by Professor Schultze in a critical paper accompanying the report of an anatomical examination, published in the *Arch. für Psychiatrie*, for 1885. This writer points out, after carefully reviewing the evidence, that there is as yet no sufficient grounds for the theory that the well-known and constant changes in the nerves and muscles seen in the typical paralysis of the forearm extensors, are secondary to spinal disease (which some observers have believed to be always present even though latent); and that, in the cases where myelitis is found, of which there are but very few on record that are above criticism,[8] the spinal changes do not stand in any coördinate relation to the peripheral changes, and are not coextensive with them, but form an independent lesion, and are, as he thinks, indicative of a later stage and a more generalized form of poisoning than that implied by the neuritis alone.

A similar view has been upheld by Zunker, and other writers. It is only open to one criticism, as it seems to me, and that is, I think, an important one; namely, that the evidence before us is as yet, too meagre to admit of our asserting, with any degree of confidence, that myelitis occurs only in cases of "severe and generalized poisoning." If we admit that it is not the cause of the typical paralysis, and that when it occurs, it is as an independent lesion, we might fairly expect that, like the other independent lesions of the same origin, it should come to the front in some cases and remain in the background in others, in the most unexpected manner, until the contrary has been proved.

This probability gains in weight through the inter-

[8] Neither Schultze nor Oppenheim refers to Dr. Birdsall's case, published in 1881 (Journ. of Neurology and Psychology, N. Y.), nor to those of Moritz (Dreschfeld and Young), London, Journ. of Anat. and Physiol., October, 1880; or of Seguin (unpublished) which are cited by Birdsall.

esting clinical distinction made by Gowers, between the muscular atrophy due to degeneration of the peripheral nerves (the usual type), and that analogous to progressive muscular atrophy, which affects by preference a somewhat different set of muscles from the usual form and runs a different course, and may be of central origin. As to the form which the spinal affection probably takes when it does occur, so far as we may judge from the very few cases on record, it is oftenest of the polio-myelitic form, except that v. Monakow found patches of sclerosis, and Vulpian, in a dog, granular cells and other signs of subacute diffused myelitis. Monakow's case is considered by Schultze as not a clear one, since some of the symptoms and some of the lesions, including the spinal sclerosis suggested the presence of paralytic dementia, but it would be begging the question to assert, that, even then, lead might not play a part in the etiology.

It has, further, been asserted by Monakow and by Oppenheim, that the cell groups of the anterior horns which appeared to have suffered the most, were those of the anterior and median portions of the horn, and I was especially interested in this statement because the same condition appears to be present in some specimens of my own. Schultze, however, thinks that this relative scarcity of nerve cells in these parts of the anterior horns is sufficiently common in healthy cords, and, although he found it in his own case of lead paralysis, he does not attach much importance to the appearance, unless associated with other signs of destruction of tissue.

Finally, another important change quite generally noted in the reports of the examinations of the cord, is thickening of the smaller arteries.

As a rule, this was associated with nephritis, and it is a condition often seen apparently as a secondary feature, in chronic spinal cases. Still, it is pretty certain that thickening of the vascular walls may occur in various organs, as a direct result of lead-poisoning, and it may have an etiological significance apart from the nephritis, as will be pointed out later.

With regard to the possible influence of lead in the etiology of the chronic system-scleroses, I do not in the least suppose that it is the one special cause, or, mean to assert that it is certainly a direct cause at all, though this is no more intrinsically improbable than that syphilis, ergot, and lathyrus should excite spinal scleroses, as these appear to do, — but it does seem to me possible that lead may at least act as an indirect cause of spinal sclerosis by causing increasing general anæmia, and by exciting hypertrophy of the small vessels.

If we glance over the conditions under which the scleroses in general arise, we find, I think, that among the most prominent are an inherited tendency to degenerative weakness, low or depressed vitality, and toxic influences. Thus, syphilis certainly plays an important part in causing locomotor ataxia, and even in causing lateral sclerosis and that the scleroses associated with paretic dementia; ergot and lathyrus seem to excite lateral sclerosis; and malaria, and other zymotic poisons have been suspected of a similar influence.

The influence of heredity is most marked in Friedreich's disease, of which a form of combined sclerosis is the most conspicuous lesion, but there are many partial or irregular cases on record, which it is difficult to classify, where the local disease appears to be closely associated with a generally poor state of nervous vitality.

A recent suggestion of Lauder Brunton is interesting in this connection. Referring to the importance of the study of the action of drugs on the production of lateral sclerosis, and especially to the observations of Tuczec on the sclerosis of ergot-caters, he points out that this result is not produced experimentally by injections of ergotine, and thinks that the poverty and famine of the peasants who fall victims to the disease may have a good deal to do with the result. Of course, many well-nourished persons suffer from typical lateral sclerosis, but then some other distinct cause, especially syphilis, may come in.

To speak of another possible partial cause in this case, and others of the same kind, I will say that our patient's mother suffered for some years before her death from symptoms which are thus described, from memory, by her daughter:

. . . "For a number of years she was troubled with diarrhœa at times: then she complained of numbness in her fingers at first (presumedly, afterward in the feet), feeling like coarse sand under the skin, with occasional return of the looseness of the bowels. Then there was swelling of the feet and ankles, which finally disappeared. She had the numbness and diarrhœa for a year before the dropsical symptoms, shortly after which she was unable to sit up for several months. She afterward rallied and was about the house for nearly a year, but remained very feeble, complaining of great soreness across her bowels, and having very little control over her limbs. She had an attack of jaundice in July, and died in October. I do not think her head was affected to any great extent, or her back. She complained of her knees being cold, and wrapped them up even in very hot weather."

Apart from the possibility of relationship of developmental origin, between the disease of mother and son, I was interested in this account from the fact that three other of the patients who belong in the group of which I have been speaking, suffered from excessive diarrhœa before and along with the spinal symptoms. I have never felt sure whether there was any connection at all between them, nor whether to consider the diarrhœa as a partial cause of the anæmia, and thus indirectly of the spinal disease, or as itself a result of some anatomical changes in the sympathetic system.

I will not take the time of the Society by describing the other cases in which lead was found in the urine. I will only say here that the list comprises other cases more or less analogous to the one just described; also two cases of optic neuritis apparently from lead-poisoning; for one of which I am indebted to Dr. J. J. Minot and Dr. O. F. Wadsworth; while the other is of interest as exhibiting symptoms strongly suggestive of paretic dementia and yet not justifying that diagnosis; further, several cases of chronic sensory neuritis, and one highly interesting and rare case of subacute neuritis with distinctly neuralgiform symptoms, nerve tenderness, and impaired electrical reactions, affecting one nerve after another until in the course of a year all four limbs became involved, the legs only to a slight degree. Lead was found twice or three times in the urine, once in considerable amount. For this case I am again indebted to the kindness of Prof. F. C. Shattuck.

With regard to the diagnostic value of the finding of traces of lead in the urine, it is needless to say again that I regard it as of no necessary importance. Dr. Gowers thinks its significance is much less than that of the "lead-line." Perhaps this is true, but a person may have a marked lead-line and yet no impairment

of health. This was strikingly shown not long ago at the Massachusetts General Hospital, where a typical and very bad case of universal drinking-water paralysis presented itself. The patient's aunt, who accompanied him, denied all symptoms of the disease, but her gums showed a well-marked lead-line.

I think the result is that it is never safe to say how large a quantity of lead a person may bear, nor how small a quantity may effect him badly, and that we probably do not yet know all the manifestations of the poison.

In conclusion, I wish to say a single word about the source of lead-poisoning in drinking-water, an old but ever new subject for investigation and discussion.

Dr. E. M. Greene, of Boston, has recently been making some observations on this subject which show the danger to which dwellers in our large cities are still exposed.

My own house being unused this summer, and therefore a good subject for study, I asked Dr. Greene to make the following analyses, the results of which are appended.

(1) First drawing of water (Ov in each case) from kitchen faucet; the water having lain in a pipe about seventy feet long: Large amount of lead found.

(2) Water drawn after faucet had discharged for five minutes: Lead still present.

(3) Water drawn after faucet had discharged for fifteen minutes: Traces of lead.

(3*a*) Ibid; and then allowed to remain closed for half an hour: Larger traces than in last case.

(4) Water drawn after faucet had discharged for an hour: No lead found.

(5) Ibid; and then allowed to remain closed for three and a half hours: Traces of lead.

The water from the faucet at the top of the house (five stories) was found to contain lead after it had been running for half an hour.

OBSERVATIONS ON THE OCCURRENCE OF LEAD IN BOSTON DRINKING-WATER.[1]

BY E. M. GREENE, M.D.,
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The attention of the writer was directed to this subject last April, when he became acquainted with a family of which several members were evidently suffering from lead-poisoning, the source of which was not readily apparent. Finally the drinking-water was examined and found to contain a large amount of lead.

In order to determine the frequency with which lead is found in Boston drinking-water, a number of examinations were made of water taken from different parts of the city and coming from Lake Cochituate. In each case the houses were supplied with lead pipes, and the specimens for examination were taken after the water had been allowed to run from two to five minutes. The reagents used for the lead analysis were first tested in an examination of distilled water for lead, and no trace of lead was found. The first two specimens came from the house occupied by the family above-mentioned, who lived on the third floor.

(1) Bennet Street: water, after running two minutes, contained a large amount of lead, very nearly one grain to the gallon.

(2) Same house, from an adjoining room: water, after running five minutes, contained a considerable amount of lead, about one-half as much as the preceding. A similar specimen, sent to Prof. E. S. Wood, was found by him, also, to contain a considerable amount of lead.

(3) Marlborough Street: after running five minutes contained considerable lead.

(4) Hancock Street, first floor: after running three minutes contained much lead.

(5) Same house, next room: from a leaky faucet which was constantly running a small stream, no lead.

(6) Another house on Hancock Street: after running four or five minutes, considerable lead.

(7) Ash Street, first floor: after running several minutes, considerable lead.

Following Dr. J. J. Putnam's suggestions, a number of examinations were then made of water taken from different parts of the same house, and after running for various intervals. The following nine specimens came from 106 Marlborough Street:

(8) Drawn after standing two days and practically for several weeks, much lead.

(9) Same tap, after running full stream for five minutes, considerable lead.

(10) Upper story, first drawing, much lead.

(11) Same, after being allowed to discharge for fifteen minutes, small amount of lead, perhaps a thirtieth of a grain.

(12) Upper story, after running thirty minutes, a slight trace of lead.

(13) Kitchen faucet, after running fifteen minutes, small amount of lead.

(14) Same, after running fifteen minutes, then closed thirty minutes, considerable lead.

(15) Kitchen faucet, after running one hour, no lead.

(16) Same, after standing three and one-half hours, considerable lead.

It would be interesting to know whether injurious results have followed from drinking the water above analyzed. In three of the above places, where I have had opportunities to investigate, such has been the case.

On Bennett Street, the family consisted of a man, his wife and son, all of whom spent the greater part of every day at home. The wife enjoyed fair health. The father and son, especially the latter, a young man, suffered from general debility and marked anæmia. He had been unable to work for several months, and suffered from severe, frequent, abdominal colic, gastro-intestinal disturbances and general muscular weakness. The physician called to attend him made a diagnosis of lead-poisoning before the drinking-water had been examined. After giving iodide of potash, the urines of both father and son were examined and found to contain a considerable amount of lead. The father's urine showed a slight trace of albumen, and contained uric acid crystals and hyaline casts. Under iodide treatment and spring water, after several weeks the colic and gastric disturbance disappeared entirely, and the general health in both cases was much improved.

In the first house on Hancock Street, the family consisted of a middle-aged lady and two adult daughters. The mother and younger daughter were very

[1] Read by invitation before the Boston Society for Medical Improvement, October 28, 1889.

anæmic and easily fatigued. The former complained of numbness, amounting at times almost to loss of sensation in both arms and general muscular weakness, especially in the forearms. Her daughter was still more anæmic and poorly nourished, although having a good appetite. For a long time she had been subject to severe muscular cramps of short duration and sudden onset, affecting mostly the calves, but often, also, the muscles of the trunk. After taking iodide of potash, the mother's urine was analyzed and found to contain a small amount of lead. The daughter's urine contained much lead, also a slight trace of albumen, and a few hyaline casts.

The elder daughter was well nourished and of fairly good color. For several years she had suffered from severe attacks of abdominal colic, attended often with vomiting and diarrhœa, and followed by constipation. These attacks were constantly becoming more frequent and severe in spite of medicine to regulate the bowels and the most careful attention to diet. Her urine was not examined. These three persons were all put on iodide of potash and spring water, with the result of gradual, but complete, disappearance of the above symptoms.

The family on Ash Street, likewise, consisted of a lady and two adult daughters. Although not under the writer's care, he has learned that the daughters have never been strong and well. They are both very anæmic, suffer from constipation, frequent headaches and occasional colic. There is nothing in their habits of life to explain these symptoms. The mother complains only of chronic bronchitis. The urine could not be obtained for examination in this group of cases.

Although these notes are quite incomplete, it is hoped that they will direct attention more strongly to the frequency with which lead is found in common drinking-water, the difficulty of getting the pipes clear of it and the dangers which are liable to follow from drinking-water as ordinarily drawn.

SOME CLINICAL NOTES ON THE WORK OF M. APOSTOLI.

BY MARY F. HOBART, M.D., BOSTON.

As the work of M. Apostoli has been a source of so much general interest in the last few years, it does not seem amiss to introduce the following clinical notes by a short account of the immediate conditions, under which he conducts his methods.

We find Apostoli busy at the examining table; his assistant taking histories at a desk, and a capable woman attendant watching and reporting the galvanometer and turning the electric current on or off, as she is ordered. On the presentation of a visiting card, Apostoli says some word of welcome which puts us at our ease at once, and we join the group of six or eight interested observers, about the table. Apostoli invites us to examine all the new cases and, from time to time, the older ones of special interest. He calls on his assistant for the various histories, and puts us in rapport with his cases, explains his methods to the newcomers, and answer questions with patience and courtesy. He begins his afternoon clinic somewhat before three and rarely closes before six. A constant attendance of three times a week for several months, affords an insight into his cases and the results of his now celebrated methods. Apostoli's face and bearing denote the hard worker. His dignified manner to the patients, his conscientious attention to the minute details in his treatment, the extreme care with which he notes the symptoms and the success or failure of his applications, inspire the observer with confidence in the man and his devotion to his work. The cases that present themselves for treatment are chiefly those of metritis, following subinvolution, hæmorrhagic endometritis, prolapsed ovaries and tubes, and fibroid tumors; also, cases of hysterical ovarian pain, and occasionally something more unusual.

The statement that this wide range of pathological conditions can be successfully treated by electricity must presuppose first, a careful investigation of the requirements in each individual case, and second, a thorough understanding of M. Apostoli's methods and the many delicate variations with which he adapts them to different conditions. To understand when to apply the positive pole and when the negative, when the carbon and when the platinum electrode, when to faradize and when to galvanize, when the long, fine wire should be used and when the short, coarse one, cannot be acquired in one visit to his clinic, or explained within the limits of one paper.

So much has already been written by, and about, Apostoli, that the medical public is too well acquainted with his instruments to require more than a passing mention of them. The abdominal electrode is of potter's clay, twelve inches long, by eight broad, and one and a half thick, well moistened and enveloped in a layer of tarletan which keeps it from falling apart. The flat, tin plate with rheophore well soldered to it, is imbedded in its upper surface. Apostoli prefers this electrode to all others that he has tried, on account of its perfect adjustment to the skin. He also recommends the warm-water electrode, designed by Dr. Martin of Chicago; it is cleaner and quite as serviceable with a current of less than 200 milliampères, after which, the application is more painful than with the clay.

The intra-uterine electrodes are three:

No. 1. The gas-carbon electrode, of seven different diameters, for canals of various dimensions; used for the positive current of high intensity, its rounded, bulb-like extremity adjusting itself perfectly to the endometrium so as to cauterize it equally on all sides. The shaft of this applicator is notched at intervals of two and one-half centimetres, these notches, during the withdrawal of the instrument, serving to inform the examining finger as to the exact extent of the surface cauterized.

No. 2. The platinum electrode, uninfluenced by the acids which gather about the positive pole, or the intense heat to which it is often subjected; in shape, like an uncurved uterine sound.

No. 3. The intra-uterine, bipolar electrode, by which both poles of a faradic current may be applied to the endometrium at the same time.

The intra-vaginal electrode is on the same pattern as the one last mentioned, but of larger calibre, and can be obtained in two sizes. Fine steel trocars serve for the galvano-punctures.

Any good galvanic battery of sufficient power will answer the purpose of this work. Apostoli, by preference, uses the bisulphate of mercury battery of A. Gaiffe. A reliable galvanometer is an absolute necessity. The best is one manufactured by Gaiffe, with a

registering power of three hundred milliampères; it can be easily attached to any battery.

In his employment of electricity, Apostoli calculates its therapeutic value, not only from the transitory application of the current, but from its continuous chemical action. This, he thinks, may last for hours and often for days after the treatment. Apostoli claims that electricity must influence the entire fibro-muscular substance, inducing permanent contraction, thereby increasing the firmness of the uterine tissue, while the application of caustics, or astringents, or the use of the curette affect only the diseased mucosa of the endometrium. This applies especially to the cases of metritis and other consequences of subinvolution. On this chemical action, too, he depends in his treatment of salpingitis and old cellulitis. In his treatment of hæmorrhagic fibromata, and also of polypi, which occasion profuse bleeding, Apostoli relies on the cauterizing action of the strong acids, which, according to the well-known laws of electrolysis gather about the positive electrode.

In order to test the action of the different currents and electrodes on uterine tissue, Apostoli first experimented on the cervix with electrodes made especially for the purpose, using, at the same time, a speculum, in order to have ocular proof of the effects he might be producing. For example, after scarifying, he employed different currents and electrodes of different material, thus satisfying himself as to the best method of checking hæmorrhage.

Some questions always present themselves to any one not personally acquainted with his methods.

(1) Can they be carried out antiseptically? Apostoli has proved, that they can be. Disinfecting injections must be given before and after treatment. All instruments are so constructed that they may be sterilized by boiling, before being dipped in carbolic acid. An iodoform gauze tampon is left in the vagina after an application.

(2) Is the application free from pain? This depends, as in other applications, on the endurance of the patient and the skilfulness of the manipulation.

The first treatment will often be painful, but tolerance increases with the number of applications. It is best to inform the patient that sharp, colicky pains may continue for some hours after treatment, but that they will invariably pass off. One important point may be mentioned here — Apostoli does not give a second treatment till the painful reaction of the previous one has passed off.

(3) Does the treatment confine the patient to her bed? Less than almost any other. All the patients, during the months of my observation, were working women, unable to rest while attending the clinic. Apostoli is glad when he can have a patient in a hospital for a few weeks, as he finds his results are more rapidly accomplished; after a strong application, he enforces a rest of one to four hours.

(4) In his treatment of fibromata, for instance, does he really terminate the disease? If the disease consists in the symptoms, yes, in the greater number of cases; if simply in the presence of the neoplasm, no, or only partially; hæmorrhagic symptoms are controlled, the feeling of weight and the gastric reflexes are ameliorated, a sensation of well-being takes possession of the patient and the tumor frequently diminishes in size. In making the first measurements of the patient, Apostoli always measures the thickness of the skin and adipose over the tumor; this may be tense and thin at first, but as the fibroma diminishes in size, the subcutaneous tissues increase in thickness. Hence, without the independent measurement of the skin, one might be easily deceived about the changes in the size of the tumor.

(5) Is the treatment of fibromata by electricity superior to surgical measures? It is, of course, more gradual, requiring many applications. It does not, however, endanger life — like a laparotomy — neither does it, like the latter, compel the patient to relinquish her ordinary employment for a number of weeks. We make our brilliant hysterectomy in the hospital; the patient does not die of shock on the table, the wound heals by first intention, we send her out at the end of three weeks, or a month, and write "cured," or "perfect recovery," in our books. We do not see her, as with weakened abdominal muscles or sense of pelvic inertia, she wearily resumes her household cares. I was told, in Paris, of a sad show of patients collected at the Hôpital Lourcine, one morning in December, 1888; those who had had laparotomy performed during the previous year, a sickly crowd, with aches and pains innumerable. At Apostoli's clinic, I have seen women find immense relief from fibromata, which surgeon after surgeon had refused to interfere with. So, whether we believe or not, that electricity can be a substitute for surgery, we can, at least, feel that we have some alternative to offer in those desperate cases, where the surgeon refuses to operate, or to those timid women who cannot decide to submit to a capital operation.

By permission of M. Apostoli, I will present a few cases whose treatment and progress came under my own observation at his clinic, in Paris, in the latter months of the year 1888, adding further note on his peculiar methods, as the cases themselves may suggest:

CASE I. Madame R., fifty years old, newspaper vender. Works from 3.30 A. M. till 7 P. M. Multiple fibroma, extending far above the umbilicus. Uterus measures 13½ c. m. During twenty years has suffered with menorrhagia; scarcely ever goes over three or four days without losing blood; hæmorrhage profuse. At one time she passed such large clots on the street, that the police would not believe her statements, and sent her to the Maternity for abortion. After two treatments at Apostoli's clinic, she went a whole month without flowing.

October 15th. Galvano-caustic, positive, carbon electrode, 250 milliampères; ten minutes; well tolerated. Rests for half an hour at the clinic; then goes off to her work, from which she cannot long be absent.

November 15th. Doing well; menstruates regularly once a month, flowing only three or four days. Receives her sixth treatment; galvano-caustic, positive, carbon electrode, No. 2; six minutes in two successive cauterizations.

Here let me say that for hæmorrhagic cases the positive current is used; either with the platinum or carbon electrode. The latter electrode is employed when hæmorrhage is severe, and a definite cauterization is deemed advisable. For simply reducing the size of a tumor, the negative current is employed; this is, as a rule, more painful than the positive, and must be used with greater discretion. The introduction of the straight electrode is effected without the intervention of a speculum.

CASE II. Madame B., forty-eight years. Interstitial fibroma with profuse hæmorrhages. Uterus measures 9½ c. m. For two years patient has never had more than twenty days between her periods. During the four months preceding her first treatment by Apostoli, she was unable to leave her bed, on account of hæmorrhage. After the first application of electricity, the hæmorrhage ceased; she was less nervous, slept better, urinated less frequently.

October 20th. Galvano-caustic, positive, carbon electrode, No. 3, 184 milliampères; ten minutes; well borne.

November 1st. Walks much better; 200 milliampères; ten minutes.

November 8th. Still loses a little bloody fluid, but feels much better. Does not urinate at all in the night, formerly, five or six times; 110 milliampères; ten minutes; galvano-caustic, positive, carbon electrode, in two successive cauterizations.

November 10th. Galvano-caustic, positive, carbon electrode, 210 milliampères in three cauterizations of three minutes each.

November 20th. No blood since last treatment; 210 milliampères; six minutes.

December 15th. Much better; very slightly indisposed at last menstruation. Walks better, feels perfectly well.

CASE III. Madame G., forty-seven years. Multilobular, non-hæmorrhagic fibroma. Patient is director of a public school of five hundred children. Has suffered with inconvenience from tumor for seven years. Lately, it has been increasing in size, and during the last two weeks she has walked with such difficulty that she has been obliged to give up her work. Two of the first surgeons in Paris have refused to operate. The patient looks pale, haggard and thin, and seems very weak; suffers constantly with migraine, has no appetite and says she gets feverish towards night. She has an immense bilobular tumor, the left lobe of which is so sensitive that she can scarcely bear the lightest palpation. The measurements are as follows: Circumference at umbilicus, 100 c. m.; below the umbilicus, at most prominent point of tumor, 113 c. m.; above the umbilicus, 96 c. m.; distance between the anterior superior spines of crista ilii, 29 c. m.; symphysis pubis to umbilicus, 25 c. m.; symphysis pubis to summit of tumor, 45 c. m.; symphysis pubis to xiphoid appendix, 49 c. m.; symphysis pubis to summit of right lobe, 36 c. m.; to summit of left lobe, 47 c. m.

November 8th. First application; galvano-caustic, platinum, positive, 100 milliampères; five minutes. The treatment gives her great pain; she is lifted from the table and laid on the bed for some hours.

November 10th. Has recovered from the immediate effect of the treatment. Less sensitiveness over left side; otherwise, about the same. No treatment.

November 13th. Sensitiveness over left lobe has entirely disappeared; face looks very much less worn. Application, galvano-caustic, positive, platinum electrode, 210 milliampères; five minutes; admirably tolerated. Walks from the table unassisted, and requires no repose.

November 15th. Eats and sleeps better; no pain, and much lighter in abdomen; feels better every way.

November 20th. Has resumed her work, is constantly on her feet, going from one story to another in a large building, in supervising her classes. Feels better than for months previous. Treated the same as last time.

November 27th. Much better. Can walk the long distance, two miles, between her home and the clinic without fatigue. Treatment continued.

The measurements were not again taken in this case before I left Paris, but the patient seemed like a different woman, and was profoundly grateful for the relief afforded by the treatment.

CASE IV. Madame D., forty-one years. Fibroma extending to umbilicus. Has suffered for several years with profuse hæmorrhages, lasting five to six days. Has been three times operated for mucous polypi. Between October 1st and November 1st, she menstruated three times, with so much pain that she was kept in bed. After four treatments by Apostoli, at the Hôpital Saint Louis, her period appeared at the regular time, and lasted only three or four days. On the 7th of November, she presented herself at Apostoli's dispensary clinic, and between then and December 15th, when I saw her for the last time, she had had six galvano-cauterizations, always with the positive current, sometimes with the platinum and sometimes with the carbon electrode, the intensity varying from 120 to 200 milliampères. During this time her menstruation was regular, the flow of a normal character, and the tumor was so reduced in size that the summit was felt midway between symphysis pubis and umbilicus.

In some cases, the os uteri will be so inaccessible as to render treatment by galvano-puncture necessary. This is made per vaginam, in the posterior cul-de-sac, at the most salient point of the tumor. The puncturing needle, made of steel, is sharp and fine, and is introduced only one centimetre into the tissues. This operation is performed without anæsthetics, and a negative current of 30 to 100 milliampères is employed.

CASE V. Miss G. Large fibroma, filling the entire abdomen and occluding the cavity of the pelvis, like a presenting fœtal head. Cervix found with difficulty, very high, and pressed by the tumor against the symphysis pubis. No possibility of entering the os uteri. Patient suffers with frequent and profuse hæmorrhages and with inability to walk, owing to œdema of legs. She was treated with galvano-punctures, November 25th, December 1st, December 10th and January 5th (when I saw her for the last time). The œdema in her legs had entirely disappeared, she was walking quite easily, and had resumed her work as seamstress, which she had been obliged to give up before coming to Apostoli.

Other cases might be cited to illustrate the improvement of old exudations of cellulitis, or prolapsed tubes and ovaries, under intra-uterine galvanism. Some times Apostoli secures a more speedy cure and absorption of the inflammatory masses by galvano-puncture.

In ovarian neuralgia and the hyperæsthesia of hysteria, great relief is afforded by use of intra-uterine faradism, the bi-polar electrode described above, being used for this. In unmarried women, where intra-uterine treatment would be difficult, these symptoms respond well to intra-vaginal faradization.

The methods of M. Apostoli present new fields of usefulness to the gynecologist. The technique is not so simple as it sounds. It requires special study, skilful manipulation, great caution, perfect antisepsis and close adherence to the details so carefully presented in the writings of M. Apostoli himself.

Clinical Department.

CUMULATIVE CONSTIPATION.

BY HENRY M. FIELD, M.D., NEWTON,
Professor of Therapeutics in the Dartmouth Medical School.

THE fact that during the brief ten days since I returned from my annual course of lectures at Dartmouth College, I have encountered two cases of cumulative constipation, — one a very pronounced case, under the attendance of a competent physician, and seen by myself in consultation,—affords the *motif* of a brief paper, which perhaps you will kindly accept and insert in your columns.

I say recent experience suggests this communication; but I have long been satisfied that the general profession knew relatively but little concerning the subject of my paper.

I intend, as from necessity, to keep well read up in practical therapeutics; and when the Blakistons published my book upon "Cathartics and Emetics," in 1887,— wherein, in its proper place, cumulative constipation, is discussed,— I was well assured (and I have received no evidence contrawise since then) that myself was the first writer who had given especial attention to this subject; at least, so far as writings in English, French and German are concerned.

A special study of this most uncomfortable condition, for more than ten years past, has increasingly impressed me with the fact of a kind of treacherous obscurity which appears to be inherent to it. That is to say in one sentence: It is not individuals of irregular lives, the ignorant, the indifferent as concerns the essential conditions of health, who are chiefly the subjects of the affection under discussion; and, again, failure in recognition as to the patient's real state, false diagnosis, has quite as often as otherwise fallen to the lot of the careful and competent physician.

In the interest of brevity — and without illustrations drawn from clinical experience, which would expand my promised *brief* paper to the dimensions of a brochure — I will say that cumulative constipation presents generically two typical forms; namely, that attended with diarrhœa and the form without such complication.

The physiological experiments of Brunton are familiar to all; by which it was shown that a gentle tickling of the intestine with a feather would occasion a considerable secretion of mucus with a subsequent downward passage of such mucus. Now the representative patient, whom we have so often seen, will, quite likely insist that he has been regular every day, surely for the last two or three weeks; but quite as often as otherwise has not observed that the usual daily evacuation was not an *evacuation*. The force of habit has prevailed to the extent of procuring regularly diurnal defecation; but, day after day, one-half or one-third of the fæcal quantity which should have been discharged, was retained. Thus, progressingly, the large intestine and, later, the small intestine got *packed;* until at a certain epoch the imbecile *vis medicatrix naturæ* offers its aid. Imbecile, because the secretion, which the irritating fæcal mass has provoked, as in the irritation of Brunton's feather experiment, is poured out at the *locus* (or below) of the cumulation packing: it can avail nothing in dislodging the "fæcal plug," as it might have availed if only the glandular outflow had been brought to bear a little higher up.

After a period of such diarrhœa, with anorexia, the patient seeks medical advice, and he will be exceptionally fortunate if the doctor does not prescribe opiates and astringents. I remember the case of a young lady, seen several years ago, exactly representing this condition; her physician had given his diagnosis — "typhoid fever" — I whispered in his ear after our consultation, "we will cure this typhoid fever within twenty-four hours"; and results verified the promise made.

The second variety of cumulative constipation is the affection under discussion but uncomplicated with diarrhœa, and it is wonderful to observe how "regular" and cleanly a person may be and yet this long-continued daily incomplete defecation, and to remark what an immense amount of fæcal matter the bowels may be induced to pack away; this often, without any serious danger to health and with but temporary inconvenience.

What is the treatment? It may well be that the advent of the doctor has close association with the first approach of danger to the sufferer. What information do our standard text-books give us — whether books devoted to therapeutics or to practice — as to the selection of cathartic materials, in an emergency like this! In a word, our treatment must be progressive and cumulative as has been the condition against which it is directed, and, first, to state it negatively, avoid *senna* and all like *convulsivant cathartics*, unless you would expose the patient to the tortures of colic in its worst form. To give a *saline*, in whatever form or quantity, is little better than to give "an inverted injection"; moreover, there must be an element of peristaltic power beyond what salines possess, and, finally, in the present state, great drenches would be required, forced upon the man who is already more than full, and, to make one more negative point, all cathartics must be avoided which act so high up on the intestinal tract, as, possibly, to involve the stomach in their irritation; vomiting is always more or less imminent in the subject of cumulative constipation, and, if gastric continence be lost early in the treatment of the case, the condition has become serious indeed.

And now for a brief positive statement as to treatment. The patient will pretty surely be an adult; have him kept quiet in bed, watch the stomach and *order every hour one compound rhubarb pill.* The prescription should call for twenty such pills, they should be freshly made and, if nausea threatens, each pill may be lightly coated with silver leaf. Let the patient understand that he will probably require as many as fifteen of these pills before the bowels give evidence of response. Indeed, in the case lately seen in consultation, twenty pills were swallowed — one every hour — and still further help was demanded by means of the fountain syringe and rectal bougie, used by the attending physicians.

The treatment, thus sketched, rarely fails; and when the bowels begin to unload, little or no pain attends the process, although great surprise may be expressed at the quantities of long-stored fæcal matter discharged.

— *Hospital-ity.* — Hospital physician (with a view to diagnosis): "What do you drink?" — New patient (cheering up at the proposal): "Oh, sir! — thank you, sir — whatever you — I leave that to you, sir!" — *London Punch.*

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

BY F. B. HARRINGTON, M.D., SECRETARY.

REGULAR Meeting, Monday, October 28, 1889, The President, DR. W. L. RICHARDSON, in the chair.

HYPERTROPHY OF PROSTATE; SPONTANEOUS FRACTURE OF STONE IN THE BLADDER.

DR. F. S. WATSON showed a specimen of a bladder from a patient aged sixty-seven years who had died recently and who had presented symptoms of hypertrophy of the prostate, stone, cystitis and secondary renal disease of gradually increasing severity for the past two or three years. This specimen shows a small rounded prominent enlargement of the median portion of the prostate, and no accompanying lateral hypertrophy. As is well-known these small median enlargements cause often more marked organic changes in the bladder than the larger lateral hypertrophies in the absence of median enlargement. This growth is an example of the class in which I have formerly advocated operative interference with a view to the removal of the growths when the symptoms due to it render the operation appropriate and in this case the operation could have been satisfactorily accomplished through a perineal section of the urethra, because the distance of the growth from that wound is not so great as to prevent its being reached effectively by the finger. Since publishing a monograph on this subject a year since, the removal of these growths has become much more frequent, and the excellent results in many cases testify strongly to the desirability of further efforts in this direction.

In the bladder, which was the seat of a chronic cystitis and of many diverticula, lay these eleven stones, weighing in all 1050 grains, one as you see has an hour-glass shape and its inner portion is retained within a diverticulum. The interest in the stones lies in one of these, one end of which lay in a diverticulum also, which portion has, as you will see, undergone spontaneous fracture. This end is broken into three fragments which when put in proper apposition fit exactly in such a way as to leave no doubt but that they originally were in this position and formed the complete end of the stone entire. That they underwent spontaneous fracture, as it is called, there can be little question because the patient never had a hard instrument introduced into the bladder, and no injury has occurred to the stones since death. The fracture of the fragments occurred on that end of the stone which occupied the interior of the diverticulum for the reason that this end is rounded and has a roughened surface while the other end beyond the hour-glass contraction of the stone's body is worn smooth and flattened by rubbing against its neighbors, and resembles exactly the surfaces of those which lay free in the bladder.

This is the second time that I have met with this rare phenomenon in my own experience, last year Dr. Debout D'Estrées, of Contrexéville, while here showed me two or three specimens of bladder calculi in which the same condition was present, and stated that it was not very unusual to see such cases at Contrexéville.

The two explanations that have been put forward to account for this condition are: (1) chemical action of the urine of some undetermined nature upon the stone, and (2) force exerted by the bladder in pressing two or more stones together with sufficient power to break them. The latter seems to me the less probable explanation, while the former is suggested by such facts as the sudden alteration in the character of the urine as might occur when beginning a course of alkaline waters as at Contrexéville and elsewhere, and by the fact of such a case as this one in which that part of the stone which lay within the diverticulum and consequently protected from direct friction from the other stones, and also lying soaking in retained urine, was the part broken, while that which lay outside subject to injury from the other stones was rubbed smooth but not broken.

DR. F. I. KNIGHT showed a

PAPILLOMA OF THE VOCAL CORD,

which was of interest as showing the value of cocaine in operating on the throat. It was removed from the middle of the vocal cord of a patient on his fourth visit. Those who were in Vienna fifteen or twenty years ago will remember what a long training most patients with polypi had to go through before they could be successfully removed. Since cocaine in strong solution has been introduced into practice the time has been very much shortened; and in this case I succeeded in getting the whole growth on the fourth visit.

The difficulty of these operations increases in proportion to the smallness rather than in proportion to the largeness of the growth. It is pretty easy to take out a certain amount of large growth, but to remove a small growth entire, of course, is more difficult. One patient in whom I removed the growth at the first visit was a lawyer who was referred to me by a laryngologist in New York, because he lived nearer Boston. I cocainized him (20% solution), removed the growth and he went to Bangor that night.

There is a great difference in the susceptibility of patients to the anæsthetic action of cocaine in the larynx. The throats of these two patients were completely anæsthetized: while in other cases the same solution would produce scarcely any effect. In cases where it is of service, it is of the greatest service as these cases illustrate.

In one or two cases I have had very disagreeable effects from the use of a 20% solution. It is important in applying it in the larynx to apply it with a sponge or with cotton and a special probang in order that as little as possible may be swallowed. In one case where I sprayed the 20% solution freely into the larynx, the patient, a lady, was in a state of collapse after leaving town. The symptoms as described to me were very disagreeable. In one or two cases where I sprayed it freely into the nose of pretty strong male subjects who were not at all nervous or timid I have had disagreeable faintness and irregularity of the pulse; so that I do not feel like using it with entire recklessness as some men do, and in the larynx I use it with a probang or brush so that as little as possible may be swallowed.

DR. A. N. BLODGETT: In two of the many cases in which I have used cocaine, although not in the strong solution mentioned by Dr. Knight, I have seen symptoms of great disturbance in the circulation with active delirium. I feel rather cautious about its promiscuous use, and particularly in the vicinity of the large vessels. I thought in one case the injection might have entered

the circulation directly through a channel of a large vessel, and produced the symptoms which were very alarming for a time, but eventually subsided. Another injection fifteen minutes later in the same patient produced anæsthesia. I feel more timid in regard to cocaine than I did before these occurrences, which came in two patients very near together.

DR. J. J. PUTNAM read

REMARKS ON THE FREQUENCY WITH WHICH LEAD IS FOUND IN THE URINE, WITH STATISTICS; AND ON THE OCCURRENCE OF LEAD IN DRINKING-WATER.[1]

DR. E. M. GREENE read

REMARKS ON THE OCCURRENCE OF LEAD IN DRINKING-WATER.[2]

DR. H. F. VICKERY: I would like to say how surprised I was to find lead in the water. After taking water for the table, we let it run still longer, and I thought it would be perfectly safe to drink such water; and that was the specimen I gave to Dr. Greene, at his suggestion, and it impressed me very deeply. I don't believe that ordinary lodgers in Boston escape drinking a lot of lead. I have particularly instructed my servants about letting the faucets run a long while, and I thought we were safe. I think it ought to be impressed by physicians upon such patients of theirs as don't own the whole of a house, that they can't take the water in their rooms without drinking lead.

DR. S. G. WEBBER: I suppose the reason we are not all troubled with lead-poisoning is that in the majority of people the kidneys act pretty well and lead is eliminated and some are less susceptible than others. If further investigation shows, as it seems it must, that lead is so very prevalent in drinking-water we ought to find some other piping than lead. It is a very serious matter. Very many symptoms have been traced and are being traced to lead. In eleven of the cases mentioned, muscular tremor and nervous debility are recorded and in all these cases lead was found. In Class 3 the symptoms are more serious and would attract attention more particularly perhaps to lead than in Class 2. If it occurs in simple nervous debility it may be that in a good many of the cases which have been ascribed to overwork, to insufficient nutrition, etc., lead may really have more to do with the breaking down of such patients that what we have supposed. It strikes me as a little peculiar that in all the cases of sciatica, lead is absent; but there are only three of these. I suppose that digestive disorders might be found where lead is present. It would be interesting to know how many cases of dyspepsia are caused by lead, and whether that may not be the reason why a good many people have chronic dyspepsia.

The PRESIDENT: Dr. Putnam speaks of drawing water in the kitchen. Did he mean from the cold-water pipe? I supposed that in the houses with modern plumbing the cold-water pipe was entirely disconnected from the general circulation of water in the house and was always through iron pipes.

DR. PUTNAM: I have inquired about that of the plumbers; and in Cambridge the pipes are of iron, in Boston in the majority of cases and all the older ones they are of lead, you are not allowed to connect iron piping directly with the main pipe. There must be a certain amount of lead pipe between; and they don't like to put that in because the best iron pipe rusts. They recommended tin-lined lead pipes.

DR. E. S. WOOD: I am surprised to hear that they recommend tin-lined lead pipe, because it is far more dangerous than pure lead pipe itself, there being a little galvanic action set up and the lead is attacked more rapidly than pure lead pipe by the water. That I can show from specimens I have where a little bit of solder has touched the inside; it makes a galvanic action; and after the pipe has been subjected to the action of the water a few months, there will be quite a cavity in the surface of the pipe near the solder.

In connection with Dr. Putnam's paper it strikes me when we come to consider the exceedingly large number of sources of lead and arsenic and the great extent of some of these sources, it readily accounts for the finding of traces of arsenic and lead in the urine of persons suffering with many forms of disease; and the fact that certain persons don't have marked symptoms is largely explained, of course, by the difference in the individual susceptibility to the action of lead and of arsenic. Certainly, as Dr. Putnam has stated, there is a very large number of arsenical wall papers within the houses of the city; and a great many people are exposed to the action of arsenical wall paper and to the action of lead.

With regard to our Boston water. Any aqueduct-water will attack lead pipe much more than hard well-water will, because hard well-water will soon cover the inside of the pipe with an insoluble coating. Where a soft-water has been in contact for a long time with lead, as when the water has not been drawn off, there is a more or less pulverulent lead compound upon the inside of the pipe which does not easily wash off; and in Dr. Putnam's house where the water had not been drawn for a long time, it took sometime to thoroughly remove the lead compound which was only loosely applied to the inside of the pipe.

I might in this connection mention a new source of lead-poisoning; from cement containing a large amount of lead, used in soldering a leaky wooden pipe used for conducting drinking-water from a cistern.

DR. PUTNAM: with regard to these various symptoms I don't want to be understood as maintaining that they are due to lead. I took the cases as they came. In certain groups I tried to make examples of them. Apropos of what Dr. Wood said with regard to hard and soft waters is the interesting suggestion in a valuable treatise on drinking-water by a French writer, that although we speak of the salts being deposited on the interior of lead pipes and covering them so that they make them comparatively harmless, yet that very action is probably a chemical action otherwise the salts would be precipitated on the bottom of the pipe, whereas they are distributed pretty evenly on the surface; that if enough chemical action is present to cause the salts to be deposited it may be supposed that chemical action would still go on in spite of the covering of the salts. It seems to me that the danger of lead-poisoning increases for the persons who live in the top of tenement-houses. In the top of my own house after the water ran one-half hour the water still showed a considerable trace of lead.

DR. W. F. WHITNEY read a paper on

FATTY DEGENERATION OF THE DIAPHRAGM; A NEGLECTED DEATH-FACTOR.

[1] See page 530 of the Journal.
[2] See page 533 of the Journal.

MEDICAL AND CHIRURGICAL STATE FACULTY OF MARYLAND.

SEMI-ANNUAL Meeting, held at Hagerstown, Md., November 12 and 13, 1889.

FIRST DAY.

The President, DR. A. FRIEDENWALD, in the chair.

DR. A. S. MASON, of Hagerstown, delivered the

ADDRESS OF WELCOME,

in which he welcomed the members of the Society to his city.

DR. A. FRIEDENWALD thanked Dr. Mason and the profession of Hagerstown for the cordial reception given the Society. He spoke of the great age of the Society; its former activity; its subsequent apathy; its rejuvenation, due in part to the activity of the younger members of the Society, so that in the past nineteen years it had done good work and had increased in strength and membership.

DR. ROBERT W. JOHNSON, of Baltimore, read a paper entitled

SOME PRACTICAL REMARKS ON HERNIA,

in which he spoke of the simplicity of early operations in general, and the crude wound-dressings used, many of which were better than some used now. The difficulty of remembering all the various anatomical parts in operating for hernia was great; but practically we did not always regard the layers as laid down by the anatomists, but simply cut with care. A patient should not die of strangulated hernia because the surgeon cannot correctly name the anatomical coverings. The two kinds of hernia were acquired and congenital. This nomenclature is simple and should be used. It is not true that the smaller the hernia the more dangerous, but the smaller the opening. The sac of the hernia may be absent at the seat of a wound. The patient always knows more of the hernia than the doctor, so let him try to reduce it first. A patient on the operating-table reduced a hernia at the last moment, and thus avoided an operation. Taxis should be done if possible, but we should not practice taxis too long before chloroform is given. If all methods fail, give an anæsthetic, and use taxis. Cutting should not be done without good reason. Chloroform produces less vomiting. Strangulated hernia, at the outset, is not dangerous; it is made so by delay. Stercoraceous vomiting is the latest symptom to be waited for. The application of a truss is as important as the fitting of a shoe. It should not be left to the instrument maker. In emergency a skein of worsted knotted may be used in children in whom the natural tendency is to recover. This is good until the truss has been applied. A picture-nail head makes good pressure. The prophylaxis is to avoid constipation and appease their crying. In operation the danger is great without asepsis. His hernia knife, all one piece, nickel-plated and smooth, for cleanliness, was a good instrument to use.

DR. J. W. CHAMBERS, of Baltimore, thought that an important fact had been brought out. Each case should be treated on its own merits. The question of time in taxis was very important. A hernia should be strangulated for as short a time as possible. Consent of the patient to an operation should be obtained if taxis fail. The danger was not in the operation but in the condition of the gut found when the doctor is called. Temporizing cannot improve the gut, therefore waiting is uncalled for. Strangulated cases need radical operation unless they can be kept up by a truss.

DR. J. E. MICHAEL, Baltimore, approved the conservatism expressed in the paper read. He thought the view taken of hernia in children was very sensible, and related a case of umbilical hernia in his own practice. He thought a large wooden button covered with chamois made a good truss. In some operations the sac was used as a barrier to the opening, and removed as in Banks' operation. With this operation he had several successful results.

DR. E. TRACY BISHOP, Smithsburg, said that hernia might be prevented in the adult, and this had not been sufficiently noticed in the remarks made. In a case which came to his notice, the patient had cured himself by active exercise, thus developing the muscles and tendons, and narrowing the opening.

DR. J. MCPHERSON SCOTT, Hagerstown, reported a case of strangulated hernia in which the operation did not reduce the hernia. He opened the sac, and found the gut in a semi-gangrenous condition, in the upper part adherent to the sac. He found it was an old case of hernia. He did not open the bowel, but broke up the adhesion, and the patient got well.

DR. R. W. JOHNSON, Baltimore, in closing the discussion, did not intend to give the impression that one should not operate at once, but that it was not always easy at once to decide if it were a case of strangulated hernia or not. He did not agree with Dr. Michael as to the operation. Dr. Johnson would be satisfied with a truss as long as the hernia did not give trouble. Muscular exercise will not help after the hernia has been caused.

DR. WILLIAM LEE, Baltimore, read a paper on

RACHITIS CONSIDERED IN REGARD TO SOME OF ITS SPECIAL SYMPTOMS.

After considering the causes of rachitis, and its prevalence, he spoke of errors in diet, and the lactic acid theory on the cause. It often followed syphilis, but the two diseases are separate and distinct. There is a tendency in rickets not to appear in one region until it has ceased in another. The nervous symptoms come last. In the treatment phosphorus, cod-liver oil (internally and by inunction) had been recommended. Plaster-of-Paris support was necessary in great deformities.

DR. V. M. REICHARD, Fair Play, said that in a negro family rickets often appeared first in the second or third child. Any child in whom the anterior fontanelle remained open after the first year, and there was delayed dentition, he looked on with suspicion.

DR. J. E. MICHAEL, Baltimore, reported

A CASE OF ANEURISM IN EACH POPLITEAL SPACE; LIGATURE OF EACH FEMORAL ARTERY; RECOVERY.

A stevedore, aged thirty-seven, general health good, no syphilis, no constitutional disease. Two years before, noticed a small swelling in the right ham and noticed pain and swelling, later the left ham similarly affected. Pressure did no good. The left femoral was ligated in the upper part of the thigh with the antiseptic animal ligature. A month later the right was ligated in the same way. A few weeks later the man was walking about, and the aneurismal swelling disappeared. He is now well.

DR. WM. B. CANFIELD, Baltimore, read a paper on

THE EARLY DETECTION OF PULMONARY CONSUMPTION, WITH MICROSCOPICAL DEMONSTRATION OF THE QUICK METHOD OF STAINING THE TUBERCLE BACILLI.

He spoke of the importance of early recognizing consumption, and the necessity of always examining the sputa early in suspicious cases. This gave the best hope of cure, which in his hands has occurred by early recognition of the disease, and the selection of a proper climate. He then went through the process of staining the sputa before the Society, which he did in one minute, showing that such a procedure was not so time-wasting nor difficult for a good microscopist as one would think. He said no one had improved on Koch's method of staining the bacilli.

DR. JOSEPH T. SMITH read a paper on

TYPHOID FEVER

in which he spoke of the mortality in Baltimore since 1879. The cause is generally the typhoid bacilli in the drinking water. He spoke of fifteen cases in Woodberry. They had taken water from the same pump, which was then locked, and no more cases occurred. The water was examined and typhoid bacilli were found. There is great danger of cesspool contamination. Disinfection would prevent spreading.

DR. WM. B. CANFIELD, Baltimore, referred to the improved condition of Munich since Pettenkofer and Voit had used such stringent measures to stamp out typhoid fever. It was with great difficulty now that the schools could find a case for demonstration.

DR. GEORGE J. PRESTON, Baltimore, spoke of the effect of high temperature acting mainly on the nervous system. He had had the best effects from antifebrin as an antipyretic.

DR. W. F. A. KEMP, Baltimore, spoke of a case of his with persistent high temperature on which antipyretics had no effect.

DR. E. TRACY BISHOP, Smithsburg, referred to isolated cases in different parts of his county, all occurring at once and the impossibility of tracing their origin to water.

DR. T. A. ASHBY, Baltimore, thought that drinking water was always directly or indirectly the cause.

DR. J. W. HUMRICHOUSE, Hagerstown, reported six cases in one house due to the drinking water.

DR. WILLIAM LEE, Baltimore, was surprised that antifebrin had not reduced the temperature. He had always used it successfully.

DR. A. FRIEDENWALD, Baltimore, spoke of the danger from depression from too large doses of antipyrin and antifebrin.

DR. WILLIAM H. PERKINS, Hancock, referred to a very remarkable case in his practice, of typhoid fever which was interrupted by scarlet fever, and after the scarlet fever ended the typhoid fever went on. He had heard of scarlet fever interrupted by typhoid fever but never the reverse.

DR. J. T. SMITH, Baltimore, in conclusion, said that a high temperature did not prevent the case from recovering if the heart was supported by alcohol.

SECOND DAY.

DR. RANDOLPH WINSLOW, Baltimore, read

REMARKS ON SOME RECENT CASES OF ABDOMINAL SURGERY.

He said operating early was conservative surgery, as it gives the patient the best chance. There were more laparotomies for other diseases than for abdominal tumors. During the past summer he had done the operation five times for various reasons, and they all recovered.

He also reported

A CASE OF SUPRA-VAGINAL HYSTERECTOMY FOR MULTIPLE UTERINE FIBROMATA; RECOVERY.

He reviewed the three methods of treatment — palliative, by electrolysis and by operation (or the radical method). The palliative treatment consisted of rest, curetting, ergot, etc., but it was too slow. The treatment by electrolysis was still *sub judice*.

DR. T. A. ASHBY, Baltimore, read a paper

THE ORIGIN AND TREATMENT OF PUS ACCUMULATION IN THE FEMALE PELVIS,

in which he advocated freely removing pus from the pelvic cavity by operation when it was necessary.

DR. GEORGE J. PRESTON, Baltimore, then read

A REVIEW OF HYPNOTISM,

in which he spoke of its antiquity under various names, as practised by the priests. The Chaldeans had the exorcists, sages, and star-gazers. It was practised daily by Isis and Osiris; and the three varieties of catalepsy, lethargy and somnambulism were later appreciated. He then referred to Mesmer and his followers and later to hypnotism as practised at the present day. No one could be hypnotized who did not give himself up to it. It was not easy to find good subjects everywhere. Nervous and hysterical women went under the influence, but the insane could not be affected.

DR. JOSEPH T. SMITH, Baltimore, thought barriers should be raised against the practice of hypnotism.

DR. S. T. EARLE, Baltimore, then read a paper on the

PRINCIPAL METHODS OF TREATING HÆMORRHOIDS.

Recent Literature.

Gynecological Electro-Therapeutics. BY H. R. BIGELOW, M.D. With an introduction by Dr. Georges Apostoli. Philadelphia: J. B. Lippincott Company. 1889.

The merit of this book consists in the fact that it presents in a convenient form the substance of Apostoli's teaching on the subject of gynecological electrotherapeutics. In view of the great interest which is now felt in this subject the book is very timely. In spite of Apostoli's success and the wide-spread knowledge of his methods, the use of electricity, as he recommends it has not become as yet by any means general. This may be due partly to the expense of the apparatus, and partly to the fact that the more brilliant if less safe results by operative measures, have proved more attractive to the surgeon. The increased knowledge of the methods of Apostoli which this book will bring within easy reach of every gynæcologist, will undoubtedly result in a more wide-spread use of this agent. Dr. Bigelow is to be congratulated upon presenting to the profession in so attractive and satisfactory a form the important facts with regard to this agent, and its application, by the acknowledged leader in its use.

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ENGLISH IDEAS ON THE SURGERY OF THE PROSTATE.

"THE Treatment of Retention of Urine from Prostatic Enlargement" was one of the subjects announced for discussion at the Annual Meeting of the British Medical Association, last August.

The discussion was opened by Mr. McGill of Leeds, who proposed to limit it to that chronic condition which prevents the bladder from thoroughly evacuating its contents and thus eventuates in chronic retention, and to that class in which the catheter gives only temporary relief. He laid down certain propositions on which he stated his own opinion, and asked for criticism.

I. That prostatic enlargements which give rise to urinary symptoms are intra-vesical and not rectal.

Of the large number of men of fifty-five and upwards who have enlarged prostates only a certain proportion suffer from urinary symptoms, and this difference depends upon the position of the enlargement. Prostates of immense size toward the rectum may present no urinary difficulty while severe urinary symptoms may supervene when the prostate by rectal examination is normal.

II. That retention is caused by a valve-like action of the intra-vesical prostate, the urethral orifice being closed more or less completely by the contraction of the bladder on its contents.

III. That in many cases self-catheterism is the only treatment required.

IV. That when the catheter treatment fails or is unavailable more radical measures are necessary.

Even in cases where there is no difficulty it is sometimes impossible to teach the patient to pass a catheter for himself.

V. That this treatment to be effectual should (1) *for a time thoroughly drain the bladder and* (2) *permanently remove the cause of the obstruction.*

VI. That these indications are best fulfilled by a suprapubic rather than by a urethral or perineal opening.

Mr. McGill entirely disapproves of the operations through the urethra, nor does he think much better of the perineal operation. He speaks highly of Watson's monograph, but differs from his conclusions. He prefers the suprapubic operation because it is more generally applicable, because it can be performed with greater precision and completed with greater certainty, because it ensures complete and most efficient drainage and because it is equally safe. As to the drainage, being more efficient above than below, McGill speaks from experience. His statement as to the comparative safety of the suprapubic operation is merely his opinion, and does not rest on a statistical foundation.

Some of Mr. McGill's suggestions as to the *technique* of the operation are worth mention. He believes the quantity of water in the rectal bag should be less than usually recommended because of possible injury to the rectal mucous membrane. He thinks it better to leave the catheter in the bladder as a guide until its cavity is opened. The bladder should be secured to the deeper part of the abdominal wall by sutures before proceeding to remove the prostate. The prostate should be removed so far as possible by enucleating with the finger and not by cutting.

Of course, the greatest interest is connected with the final and permanent results of the operation. Mr. McGill has tabulated twenty-four cases performed in the Leeds Infirmary. In estimating the final effects of supra-pubic prostatotomy, he throws out seven cases in which a stone was removed, as it might be urged that a favorable result was due to the removal of the calculus, and four deaths, three directly due to the operation and one to pneumonia when the patient was convalescent. Two patients are still under treatment, and one cannot be traced. Of the ten remaining cases eight have continued well, only one of them having required the use of a catheter, and that only after excessive drinking. In one case the operation was very unsatisfactory, owing to the extreme hardness of the prostate. One case was relieved for a time, and then apparently relapsed. His home surroundings were of the worst possible description, and he became insane.

Mr. Edward Atkinson, one of the surgeons of the Leeds Infirmary, had contributed five cases to the list already mentioned. One of his cases was the one that had died of pneumonia. In this case the pathologist found nothing to suggest that any breach of surface had been made. The other four cases were on exhibition. They were all able to tell that they could not only retain, but also expel their urine, that the number of times they required to relieve themselves in twenty-four hours varied from six to ten, instead of from twenty to forty, and that their lives are now not only tolerable, but comfortable.

Mr. Jessop, another of the Leed's surgeons, said that when regular catheterism could be practised without difficulty or hæmorrhage or inflammatory consequences, there was no need for operative interference of any kind; "but when inordinate impediment to the introduction of a catheter was met with, when the

patient, after frequent trial, continued to present a hypersensitiveness of urethra or hæmorrhagic tendency, or again when, in spite of antiseptic washings and other preventives, cystitis could not be averted, suprapubic prostatectomy would, he believed, be found to offer a means of escape from impending death superior to any other with which he was acquainted."

Mr. W. Bruce Clarke felt that the great difficulty was in knowing when the operation should be performed. When the use of the catheter failed, it is his habit to make a small opening in the perineum, to slightly incise the prostate in the middle line, if necessary to admit his finger. If the prostate was not much enlarged, the retention of a tube in the bladder, for ten days or a fortnight, was often sufficient to restore to the patient for some time the power of urinating naturally, and at the same time it was quite possible for a pedunculated portion of the prostate to be removed through the perineal opening. When, however, he found that the prostate was considerably enlarged and its base much thickened, he always advised that the suprapubic operation should be immediately performed. He had operated in all on eleven cases suffering from prostatic obstruction, and success had been complete in all save two, who were practically moribund before they sought advice, but in only two cases had he found the suprapubic operation necessary.

Mr. Bennet May has done the suprapubic operation for prostatic obstruction four times, and believes it the only way by which we can hope to afford permanent radical relief.

He has not found removal at all an easy matter. In his experience, the tissue does not readily enucleate or tear, and has to be cut away nearly to the last shred. Hæmorrhage may be serious in an old or feeble patient, but may be minimized by removing only a portion of the collar, as in his own case, in which he so cut away the tissues as to leave a deep indentation in front of and behind the urethral orifice.

He regards formal removal of any portion of the prostate by the perineum as impracticable in most cases. Those cases in which masses have been removed in this way, he believes to have been lucky accidents only.

"On the other hand," to quote his own words, "suprapubic cystotomy is in itself an extremely easy and safe proceeding. . . . By this route it is possible, in a large majority, to remove the obstruction. But this removal adds appreciably, though not greatly, to the danger of cystotomy, principally by the loss of blood and extra time occupied. Consequently it should be done before the patient is much exhausted or enfeebled. In such patients drainage by median perineal incision may be the more prudent course."

Professor Trendelenberg, of Bonn, who was present, drew attention to the advantages obtained by raising the nates so as to partially invert the patient. The intestines, by their own weight, fall towards the diaphragm, and the view of the vesical cavity is greatly facilitated.

Mr. Macewen, of Glasgow, said that perineal prostatectomy had had fair results in his hands, though it left much to be desired. Mr. McGill's operation, from an *a priori* point of view, promised to be much better, as it removed the pathological cause of the disturbance. The patients seen were proofs of the success of the operation. He was convinced that suprapubic prostatectomy was a practical operation, and one which he was inclined to practise.

The discussion is given in full in the *British Medical Journal* of October 19th and is extremely instructive. It will doubtless lead to a greater popularity for the operation. But the great difficulty will still consist in knowing when the operation should be performed and we doubt if surgeons will yet be entirely unanimous in utterly discarding the section through the perineum.

THE PHYSIOLOGY OF HYPNOTISM.

THE interest which is at the present time taken in hypnotism, is seen in the fact that, during the past twenty years, more than thirty different works have appeared on this subject in various parts of Europe and the United States. Some of these pertain to hypnotism in its applications to medicine. This journal has at different times called attention to the earnest endeavors which are being made in some of the hospitals of the old world to utilize this agency in the treatment of insomnia, contractures, paralyses, painful affections of all kinds, even functional derangements of various organs. There is now an International Congress of Hypnotism, containing among its members many of the most celebrated physicians of Great Britain and the Continent of Europe, and whose first meeting in August last was largely attended. A *Quarterly Journal of Hypnotism* presents the scientific aspects of the subject. The enthusiastic advocates of hypnotism claim that it is not only a powerful remedial agent in the morbid conditions above mentioned, but that it also lends itself to a new and hitherto unheard of use, that of reforming drunkards and criminals (!) And quite recently some refractory cases of insanity are said to have yielded to hypnotic influence.

The time has gone by when intelligent men could dismiss the facts of hypnotism with a sneer or blank incredulity; and while it is admitted on all sides that from the marvels and mysteries of so-called "animal magnetism," quacks have reaped a rich harvest in the past, and that much that has been styled hypnotism has been fraud and imposture, nevertheless, it is now generally conceded that there are genuine facts connected with this strange influence of mind over mind that are of the greatest interest, and deserve investigation.

As for the term "animal magnetism," it originated with Mesmer, who died early in this century. Mesmer supposed that a peculiar magnetic influence (called by Reichenbach, *odic force*) passed from the operator to the subject. Braid, in 1842, showed that there was no transmission of a magnetic or other fluid, and that the

phenomena of "animal magnetism" are all referable to disturbances of the nervous system and may be brought under the known laws of sleep. He assigned the principal rôle to the subjectivity of the sleeper, and explained numerous somnambulistic phenomena by a morbidly increased sensibility, hyperæsthesia.[1] He showed that as natural sleep is variable in its phases, from deep insensibility amounting almost to coma, to a light dreamy state, in which many of the cerebral faculties are awake while the higher consciousness still remains dormant, so there is the same variability in the induced or mesmeric sleep.

Braid was the first to use the word "hypnotism" (Greek ὕπνος, sleep) to denote the sum of nervous phenomena characterizing the induced or artificial sleep. He understood suggestion, though he did not use the name. "One can play," he says, on "hypnotized subjects as on a musical instrument, and create dreams in their imagination which they accept as reality."

The key-note was struck when the word *hypnotism* was pronounced; henceforth, whatever was genuine in the manifestations of the so-called "mesmerism" was destined to be referred to the agency of laws, not more intricate or mysterious than those which preside over natural sleep and its modifications.

The principal characteristic of the hypnotic state is the suspension of the voluntary and conscious energies, and the dominance of pure automatism — in one of the phases of hypnotism the subject is perfectly lethargic. In natural sleep, too, volition and consciousness are dormant. Natural sleep is occasioned by a torpor or *engourdissement* of the cerebral cells; this comes about through fatigue; Preyer says that it is a species of intoxication caused by retention of the waste products of denutrition. In the induced sleep, this lethargic condition of the cells is produced by suggestion. As to the *mode* of hypnotizing, this seems to be a matter of indifference, provided the attention of the subject is gained, and a sufficient impression made on his sensorium to inhibit the higher faculties and engage the automatic in the way desired. Tiring the cerebrum through fatigue of the visual organs (by gazing at a glass knob, etc.) was Braid's method; sometimes the deferential mental state is obtained by simple verbal suggestion. According to Bernheim, some of the methods by which mothers lull their babes to sleep are a species of hypnotization. This is mysterious, but not more so than the influence which some minds exert over other minds. Do we not continually see persons who have a chilling and depressing influence over us, who, more or less, inhibit our trains of thought? Hypnotism in animals is, doubtless, nothing but an inhibition of the voluntary and even the reflex energies by fear of man; at least much that has been reported under this head seems to have been simply paralysis from terror.

The cortical centres, whose torpor is the immediate antecedent of sleep, may be in a partially active state in natural sleep, and give rise to dreams; now the dream-state characterizes the most interesting phase of hypnotism. In fact, there is not one of the psychical features of the artificially induced sleep that does not find its counterpart in natural dreaming. In dreams naturally occurring, there is sometimes concentration of the attention on certain images and impressions, and frequently (see instances given by Carpenter) the current and complexion of the dream may be determined by suggestion. It is needless to say that this is also a leading phenomenon of hypnotism. And, if we compare hypnotism with somnambulism, we find that the phenomena of the one are matched by the phenomena of the other; the resemblance, in fact, is so striking that physiologists long since denominated the hypnotic state an artificially induced somnambulism. That exaltation of certain faculties and senses, so often remarked in somnambulic subjects, is seen in the "mesmeric" sleep, and is the source of all the marvels connected therewith. The cataleptic rigidity (due to excitation of the motor part of the cortex cerebri), sometimes witnessed in the hypnotic state, is seen in other forms of somnambulism not brought about by suggestion (Carpenter).

From the point of view above stated, several important works dealing with the phenomena of hypnotism have been written. Carpenter, in his "Human Physiology" and in his "Principles of Mental Physiology," presents the argument in a way that has not since been surpassed. Barth's "Sommeil Non-Naturel; ses Diverses Formes" handles the question perspicuously; while by far the most popular work of the kind which has appeared during this decade is Émile Yung's "Le Sommeil Normal et le Sommeil Pathologique." In German, we have the valuable treatises of Heidenhain and Obsteiner. The work entitled "Animal Magnetism," by Binet and Feré, appeared in 1887; it is a part of the "International Scientific Series," and takes its stand-point from the phenomena of natural sleep. The recently published volume of Fredrik Bjornström (whose untimely death we have now to record) is a clear, concise and popular statement of the subject; it cannot, however, in our judgment, rank as a really careful, critical examination of the phenomena of hypnotism, of which he attempts no explanation.

From a therapeutic point of view, the works of Liebault, of Bernheim, of Fontan and Segard, and of Delbœuf are the most valuable.

For the physician, the fact of most interest and importance connected with hypnotism, and the thus far largely inexplicable element, is the dominant influence of one mind over another, and the power which the hypnotic operator has, in some cases, to change morbid states of innervation in his subject, arousing torpid centres, and stimulating the normal energies. But this is sometimes done by the strong will of the individual, apart from any hypnotic suggestion. And do we not ourselves often realize partial exemplifications of this power in our own lives?

[1] Bjornström. Hypnotism; its History and Present Development. Translated by Baron Nils Posse. Humboldt Publishing Company, 1889.

MEDICAL NOTES.

— Much interest was felt alike by native and foreign physicians in Vienna, in the recent case of Dr. G. Hoffmann, assistant in the Hygienic Institute at Vienna, who fell a victim to glanders whilst conducting experiments with the virus, and who was said to have contracted the disease by using upon himself a hypodermic syringe with which he had made the inoculation of animals with the cultures of the bacteria. It is now authoritatively stated that this method of infection has been disproved by the post-mortem examination, which showed the respiratory mucous membrane to be the starting point of the infection.

— A London paper says that some experiments, in judging distance by sound, were carried out recently by one of the London brigades of the Metropolitan Volunteers. This branch of military tactics is quite a new departure. It was first explained to the men that sound travels at the rate of 1,100 yards in three seconds, and on this basis they were to estimate the distance at which some rifles were being discharged in the darkness. The answers at first were very wide of the mark, some of the men being as much as 150 yards out in their calculations. With a little practice, however, a great improvement was shown, many of the men guessing the distance exactly. The experiments are not as satisfactory as was hoped, and it is thought some time must elapse before judging distance by sound can be relied upon with any certainty.

NEW YORK.

—Subscriptions amounting to $31,000 have been raised in Paterson, New Jersey, for the erection of suitable buildings for the General Hospital of the city.

— Dr. T. Gaillard Thomas, who is now a professor emeritus in the College of Physicians and Surgeons, is engaged in giving a special course of six lectures before the students of that school. The subject of the course is an exhaustive study of "Abortion" from the stand-point of his thirty years' experience.

— Mayor Grant has re-appointed Mrs. Mary Nash Agnew, widow of the late Dr. C. R. Agnew, a member of the Board of Education, and has filled the place of Miss Grace Dodge, daughter of the late William E. Dodge, whose time as a member of the Board is also about to expire, with another lady, Mrs. Clara M. Williams.

— During the last voyage of the North German Lloyd steamship *Fulda*, which arrived November 18, from Bremen and Southampton, four children died of diphtheria in the steerage. The disease was brought on board at Southampton by a child seven years of age who was not known to have diphtheria until some hours after the vessel left port.

— Mr. A. H. Gallatin, the chemist, has called public attention to the danger attending the use of many of the compressed tablets of "soda mint" now so generally sold in the shops. He states that while safe enough when sold in bottles with glass stoppers, they should be avoided when the stoppers are metallic. The decomposing tablets attack the copper in the lead stoppers, and become impregnated with that poisonous metal, as shown by the fact that they are sometimes spotted and sometimes completely stained a bright green. Copper has been extracted from the cotton plugs often placed between the stopper and the tablets, in the laboratory of the University of the City of New York.

— Dr. Wm. Cockcroft, one of New York's old practitioners, died November 19th. He was born July 26, 1817, and was the son of Dr. James Cockcroft, who was a physician of distinction in the city in the early part of the century. He was a graduate of Columbia College and the College of Physicians and Surgeons, and for many years he was engaged in active practice, occupying a home which he subsequently sold to the New York Hospital, which now occupies the premises. He was especially distinguished in surgery. About fifteen years ago he retired from practice, and for some time past he had been in failing health.

— Dr. John S. Billings, U. S. A., of Washington, is this year delivering the Cartwright Lectures before the Association of the Alumni of the College of Physicians and Surgeons; the subjects of the Lectures being "Vital and Medical Statistics." His object, he stated in the first of the lectures, is to treat of these statistics and some of their relations to each other and to scientific and practical medicine and sanitation; the discussion including such points as character of the data required, methods of obtaining them by the census, by registration, and in other ways; relations of physicians to this kind of work, methods of compilation and forms of publication, the best existing sources of such data, and some of the more common fallacies in drawing conclusions from the data as ordinarily published.

— At the meeting of the Medico-Legal Society held November 20th, Dr. Phillip E. Donlin, Deputy Coroner, who read a paper on "The Pathology of Death by Electricity," exhibited the larynx of the lineman Feeks, whose tragic death on a telegraph pole excited so much attention a short time ago. It presented striking evidences of the injuries received from the fatal wire. In the course of the paper he said, "the popular idea that the electrical current passes along the nerves and produces shock, by conducting the current to the brain, is, as you know fallacious. Our knowledge of the great electrical conductive power of water, and the experiments of Dr. Richardson, which show the still greater electrical conductive power of blood, would lead one to suppose — and, in fact, it is proved by the greater damage done to the most vascular organs of the body — that the blood is the great conductor of electricity; and that in all cases of exposure to the electric current the blood is the first to suffer, and the nerve centres and cells the last.

"Unquestionably our knowledge of the manner of death points out clearly that when death is not on the moment produced by the shock of the current it must be produced by the electric current's action (conducted

by the blood) upon the ganglia of the heart, causing spasm of the heart muscle, emptying the ventricles and abnormally forcibly propelling the charged and fluid blood to the periphery; producing hyperæmic ecchymosis in the most vascular portions of the most vascular organs. Where death is not instantaneous it must be produced by disorganization of the blood; interference with the circulation causing engorgement of some vital vascular organ. The lungs being the most vascular, death usually results from asphyxia either through the unoxygenated condition of the blood or hyperæmia of these organs."

In reply to a question as to the effect likely to be produced by the infliction of the death penalty by electricity, Dr. Donlin said that the immensity of the power of the machines constructed was such that the purely mechanical result would occasion death. It was possible with those appliances to drive the current of electricity through the tissues with such power as to destroy them, though the amount of power to be employed was clearly within the control of the electrician.

— The forty-third anniversary of the New York Academy of Medicine was celebrated on the evening of November 21st, when Dr. William M. Polk delivered an address on "The Relation of Medicine to Some of the Questions of the Day." In introducing the speaker, the President, Dr. Alfred L. Loomis, stated that while the building fund of the Academy now amounted to $150,000 and it was hoped to realize $70,000 from the sale of the premises now occupied, the subscriptions of $20,000 additional was still needed for the completion of the new building, which it was hoped to make a model of its kind in every way.

Miscellany.

A CASE OF RECURRENT ILEO-COLIC INTUSSUSCEPTION.

An interesting case of recurring invagination of the bowel where the fatal attack occurred seven months after the first, is recorded by Mr. Jones (*Illustrated Medical News*, September, 1889 and *London Medical Recorder*, October 1889). A child, aged five months, was noticed to be out of sorts and feverish on July 4, 1888. On July 5th she vomited some bile-colored fluid. On July 6th the vomiting was persistent. On July 7th the author was sent for and found the child very restless, with a temperature of 102° F. The child had passed a normal motion in the morning, the abdomen seemed tender but was not distended, and no tumor could be felt. The vomiting, however, continued, and in the evening some blood and mucus passed by the rectum. Next day more blood and mucus passed, and a distinct tumor could be felt in the neighborhood of the cæcum, and there were signs of commencing tympanites, with bilious vomiting. A diagnosis of intussusception was arrived at, and inflation with a pair of bellows was at once resorted to, under chloroform, but without success. The author next injected warm water, at the same time kneading the abdomen at the seat of obstruction; after using some force, the obstruction was removed, and a great deal of bloody mucus came away with the water. The child made a good recovery. Seven months later, on February 17, 1889, the child seemed out of sorts and the author ordered some Dover's powder to be given freely, as examination of the abdomen gave negative results. Next morning some blood was passed, but no motion, and bilious vomiting had set in. A tumor as large as a sausage could be felt in the old site, so at 3 P. M. chloroform was given and hot water injected at the same time as kneading was applied over the cæcum. After about ten minutes this measure apparently succeeded; the child recovered from the anæsthetic and seemed quite lively. About 8 P. M. the mother unwisely allowed her to take the breast, and half an hour later vomiting set in, and at 10.30 P. M. the child died rather suddenly. On *post-mortem* examination the small intestine was distended with gas; colon empty; no adhesions; no fluid in peritoneal cavity; occupying the cæcal region was an example of true ileo-colic intussusception. The ileum had been protruded through the ileo-cæcal valve into the cæcum.

THE INVASION OF THE "MASSEUR."

The *Medical Record* thus discourses upon the function of the *masseur*:

"We must beg our readers to keep a close eye upon the *masseur*. He is bearing down upon unhinged humanity with a steady and relentless stride. He developes in the midst of us, he sails over from Germany and England to us, while, if there are any graduates of Heilgymnastik still left in Denmark, Sweden, or Norway, we should like to know it; for it has appeared to us, after some busy morning, that they have all called. Truly, the *masseur* is among us. He is a man of great resources. As his fraternity increases, he does not lose heart, or complain of competition, or seek protection from the State — he simply enlarges his field. . . . Adipose tissue in excess is made to disappear, while glandular tissue, if mammary, is rubbed to make it grow. Massage has now applied itself to diseases of the eye, and granular lids are, *quoad* the granulations, artistically rubbed off; it has invaded the mouth and throat, reducing hypertrophied tonsils, opening the Eustachian tubes, and curing catarrh and deafness. The abdominal viscera were the early and easy subjects for this now illustrious science. The colon's lax vermicular waves are tempestuously hastened, and the modest stream from the smaller bowel has scarcely babbled through the ileo-cæcal valve before it is rushed madly into the rectum. The pelvic organs have of late received the devoirs of this new art; and the uterus has been rubbed and stroked and pommelled, all in pure French terminology, until this martyr-viscus could not help but free itself from adhesions and congestions, and pillow itself gently on its original vesical cushion. Lastly, we learn that the heart is to have massage. The heart has been, we are told by poets, torn and bruised, and bled and broken; but it remains for modern science to see that it shall have *effleurage* and lomi-lomi. There are still a few things left for the *masseur*. Can he not apply *tapotiment* to the brain, or, at least, to the cerebellum? Has he done justice to the kidneys? Might not the ovary receive a course of artistic jabbing before it is removed and

bottled? When all fields are conquered, and every viscus springs responsive into blooming juvenescence beneath his learned touch, we recommend the *masseur* to Christian science."

Correspondence.

VARIOLA AND VARICELLA.

PAWTUCKET, R. I., November 23, 1889.

MR. EDITOR, — All readers must be interested in Dr. McCollom's paper, in the JOURNAL for November 21st, on "Variola and Varicella." Perhaps it would be well to remember, however, what I was taught and have observed, that is, that variola, whether modified by vaccination or not, is the most regular of diseases. On the third day after the chill, be that severe or nearly *nil*, the eruption appears. It comes out in one crop, never otherwise; whereas in varicella there are most usually a succession of eruptions. The eruption of variola never appears of different ages, as is often the fact in varicella, and many of the vesicles are ovoid, which I never saw in variola. An expert can tell, at a glance at the eruption, when the initial chill or backache took place in variola, but not so in varicella. I will here mention that, twelve days (to an hour) after seeing, and freely examining a person ill of confluent variola, in the winter of 1846, modified small-pox began. In 1872, I had a patient who knew, to an hour, when his exposure was; his attack occurred ten days and twelve hours thereafter, a very unusual thing. Authors speak of a sense of nausea or something akin to disgust at the moment when the infection is received. Such was the fact in my case, I was in a profuse sweat, tired and hungry also. When I inspected the sick man, fear did not enter into the case, I went on purpose to see a case of small-pox, and I both saw and felt of him. The regularity of the symptoms of variola — only one crop of the pimples — always round, never ovoid, as is often the fact in varicella, will, I think, enable all to distinguish between variola and varicella.

JAMES O. WHITNEY, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 16, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	607	183	12.00	14.24	1.76	1.76	4.96
Philadelphia	1,040,245	370	120	18 80	11.61	.81	2.16	5.13
Chicago	830,000	286	106	20.65	9.10	3.15	5.60	9.80
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	125	46	15.20	16.80	1.60	3.20	6.40
St. Louis	450,000	—	—	—	—	—	—	—
Boston	413,567	148	41	11.39	14.07	4.02	1.34	6.03
New Orleans	250,000	144	37	9.66	11.04	2.76	1.38	2.76
Cincinnati	225,000	101	—	18.81	11.89	2.97	1.98	10.89
Washington	223,000	99	35	16.16	18.18	2.02	5.05	5.05
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	10	4	30.00	10.00	20.00	—	10.00
Charleston	60,145	31	12	9.69	9.69	3.23	3.23	—
Portland	40,000	10	2	—	20.00	—	—	—
Worcester	78,292	24	15	20.80	—	—	—	16.64
Lowell	71,518	28	11	14.28	7.14	3.57	7.14	3.57
Cambridge	65,552	25	8	4.00	4.00	—	—	4.00
Fall River	62,647	22	7	4.55	22.75	—	—	4.55
Lynn	53,334	14	3	—	14.28	—	—	—
Springfield	40,731	21	2	9.52	9.52	—	—	—
Lawrence	40,619	16	4	12.50	18.75	—	—	12.50
New Bedford	37,253	12	5	8.33	16.66	8.33	—	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	17	6	5.88	—	—	—	—
Salem	29,011	—	—	—	—	—	—	—
Brockton	28,813	—	—	—	—	—	—	—
Chelsea	28,167	14	2	7.14	28.56	—	7.14	—
Haverhill	26,058	5	1	—	20.00	—	—	—
Taunton	25,170	6	1	16.66	33.33	—	—	16.66
Gloucester	24,263	5	1	—	20.00	—	—	—
Newton	21,553	6	0	33.33	16.66	—	16.66	16.66
Malden	19,774	2	2	—	—	—	—	—
Fitchburg	17,534	6	1	—	16 66	—	—	—
Waltham	17,332	5	0	20.00	20.00	—	—	20.00
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	4	2	—	25.00	—	—	—
Quincy	13,728	7	3	28.56	—	—	14.28	—

Deaths reported 2,170: under five years of age 660; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 289, consumption 283, acute lung diseases 233, diphtheria and croup 128, typhoid fever 56, diarrhœal diseases 45, malarial fevers 17, whooping-cough 13, scarlet fever 14, cerebro-spinal meningitis 12, measles 3.

From malarial fevers, New York 8, New Orleans 4, Baltimore 2, Philadelphia, Charleston and Springfield both 1. From whooping-cough, New York 7, Philadelphia 3, Baltimore 2, Cincinnati 1. From scarlet fever, Philadelphia 6, Chicago 4, New York 2, Baltimore and Somerville 1 each. From cerebro-spinal meningitis, Washington 4, Chicago and Cincinnati 2 each, New York, Worcester and Springfield 1 each. From measles, New York 3.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,535,406, for the week ending November 9th, the death-rate was 18.1. Deaths reported 3,321: infants under one year of age 843; acute diseases of the respiratory organs (London) 318, scarlet fever 81, measles 66, whooping-cough 52, fever 46, diarrhœa 43, diphtheria 36, small-pox (London) 1.

The death-rates ranged from 12.2 in Birkenhead to 26.0 in Plymouth: Birmingham 18.2, Bradford 24.6, Hull 19.1, Leeds 18.1, Leicester 18.4, London 16.2, Liverpool 21.1, Manchester 23.3, Nottingham 15.4, Sheffield 21.0.

In Edinburgh 17.0, Glasgow 24.2, Dublin 24.5.

The meteorological record for the week ending Nov. 16, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps: —

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.		Velocity of Wind.		State of Weather.[1]		Rainfall.	
Saturday, Nov. 16, 1889.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ...10	30.01	42.0	44.0	40.0	96	79	88.0	N.E.	N.	17	12	R.	C.	6.30	.39
Monday, ...11	30.17	44.0	52.0	35.0	75	85	80.0	N.W.	W.	4	8	C.	O.	0.50	T.
Tuesday, ..12	30.21	50.0	56.0	44.0	83	87	85.0	S.W.	S.W.	3	9	O.	O.	1.00	.02
Wednes. ..13	29.86	51.0	54.0	48.0	87	97	92.0	S.E.	N.E.	5	12	O.	R.	13.15	.30
Thursday, 14	29.69	56.0	62.0	49.0	84	61	72.0	W.	W.	6	17	C.	C.		.0
Friday, ...15	30.11	34.0	40.0	27.0	62	66	64.0	N.W.	N.W.	18	24	F.	C.		.0
Saturday, .16	30.57	29.0	37.	21.0	74	46	75.0	W.	W.	9	7	C.	C.		.0
Mean for Week.	30.09		49.0	38.0			79.0								1.11

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 15, 1889, TO NOVEMBER 22, 1889.

By direction of the Secretary of War, the extension of leave of absence on surgeon's certificate of disability, granted Major LEONARD Y. LORING, surgeon in S. O., No. 241, October 16, 1889, from this office, is still further extended one month on surgeon's certificate of disability. Par. 3, S. O. 268, Headquarters of the Army, A. G. O, November 16, 1889.

Captain EDWARD B. MOSELEY, assistant surgeon, is relieved from duty at Whipple Barracks, Arizona, to take effect upon the expiration of his present leave of absence, and will report in person to the commanding officer Fort Clark, Texas, for duty at that station, reporting by letter to the commanding general Department of Texas. Par. 4, S. O. 268, A. G. O., November 16, 1889.

Captain WALTER W. R. FISHER, assistant surgeon, is relieved from duty at the Presidio of San Francisco, Cal., and will report in person to the commanding officer Fort Assinniboine, Montana, for duty at that station, reporting by letter to the commanding general Department of Dakota. Par. 4, S. O. 268, Headquarters of the Army, A. G. O., November 16, 1889.

The leave of absence on surgeon's certificate of disability granted Captain RUDOLPH G. EBERT, assistant surgeon in S. O. 109, May 11, 1889, from this office, is extended six months on surgeon's certificate of disability. Par. 13, S. O. 270, Headquarters of the Army, A. G. O., November 19, 1889.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING NOVEMBER 23, 1889.

RUSH, W. H., past assistant surgeon, ordered to U. S. S. "Saratoga."

URIC, J. F., assistant surgeon, from Coast Survey steamer "Gedney," and to the U. S. S. "New Hampshire."

BRYANT, P. H., assistant surgeon, from the Norfolk Hospital, and to the Coast Survey steamer "Gedney."

SMITH, GEORGE T., assistant surgeon, from the Army and Navy Hospital, Hot Springs, Ark., and to Naval Hospital, Norfolk, Va.

STENE, E. P., assistant surgeon, after examination for promotion, await orders at Boston, Mass.

SOCIETY NOTICE.

BOSTON SOCIETY FOR MEDICAL OBSERVATION — A Regular Meeting of the Society will be held at 19 Boylston Place on Monday evening, December 2, at eight o'clock. Readers: Dr. G. H. M. Rowe, "On the Necessity of Further Legislation on the Laws for Public Health"; Dr. C. P. Putnam, "Constipation as a Factor in Diarrhœa." Election of Associate Members.

T. F. SHERMAN, M.D., *Secretary.*

DEATH.

Died in West Somerville, Mass., November 20, 1889, Moses Collins Greene, M.D., M.M.S.S., aged seventy-nine years.

BOOKS AND PAMPHLETS RECEIVED.

Enteralgia and Chronic Peritonitis. By A. Jacobi, M.D. New York, N. Y.

The Annual Report of the Health of the Imperial Navy for the 21st year of Meiji (1888).

Report of the Chief of the Bureau of Medicine and Surgery to the Secretary of the Navy. 1889.

Over-Strain and Under-Power of Brain. By C. H. Hughes, M.D., St. Louis, Mo. Reprint. 1889.

Taylor's Clinical Atlas of Venereal and Skin Diseases. Parts VII and VIII. Philadelphia: Lea Brothers & Co. 1889.

Ninth Annual Report of the State Board of Health of New York, transmitted to the Legislature, February 26, 1889.

Thirty-Sixth Annual Report of the Trustees of the State Almshouse at Tewksbury, for the year ending September, 30, 1889.

A Successful Case of Laparotomy and Supravaginal Amputation of the Uterus for Rupture. By Henry C. Coe, M.D., M.R.C.S. Reprint. 1889.

The Physicians' Visiting List. (Lindsay and Blakiston's) for 1890. Thirty-ninth year of its publication. Philadelphia: P. Blakiston, Son & Co. 1889.

Transactions of the Tenth Annual Meeting of the American Laryngological Association held in the city of Washington, September 18, and 20, 1888. Published by the Association, 1889.

The Necessity of Increasing Improvement. An Address Delivered before the New Hampshire Medical Society, June 17, 1889. By the President, Samuel C. Whittier, M.D., of Portsmouth.

Foods for the Fat. A Treatise on Corpulency and a Dietary for its Cure. By Nathaniel Edward Davies, R.C.S.E. American Edition. Edited by Charles W. Greene, M.A., M.D. Philadelphia: J. B. Lippincott Co. 1889.

The Comparative Merits of Abdominal Section and Vaginal Incision in the treatment of Extra-Peritoneal Hematocele, with Report of a Successful Case by Section. By Marcus Rosenwasser, M.D., Cleveland, Ohio. Reprint. 1889.

The Electric Illumination of the Bladder and Urethra as a Means for Diagnosis of Obscure Vesico-Urethral Diseases. By C. Hurry Fenwick, F.R.C.S., England, Assistant Surgeon to London Hospital, etc. London: J. & A. Churchill. 1889.

A Text-Book of Practical Medicine Designed for the Use of Students and Practitioners of Medicine. By Alfred L. Loomis, M.D., LL.D., etc. Eighth Edition. Revised and enlarged with two hundred and fifteen illustrations. New York: William Wood & Co. 1889.

A Treatise on Gout. By Sir Dyce Duckworth, M.D., Edinburgh; M.D. (Hon. Causa), Royal University, Ireland; Fellow and Treasurer of the Royal College of Physicians of London, etc. With frontispiece and illustrations. Philadelphia: P. Blakiston, Son & Co. 1889

A Plea in Favor of Early Laparotomy for Catarrhal and Ulcerative Appendicitis, with the Report of Two Cases. By N. Senn, M.D. Ph.D., of Milwaukee, Wis., Professor Principles of Surgery and Surgical Pathology in the Rush Medical College. Chicago, Ill. Reprint. 1889.

Reformation in the Practice of Medicine by the Dosimetric Method of Practice; or, the method of small doses of the active principles of plants, mathematically measured and scientifically adapted to the varied abnormal conditions. With biographical sketch of Dr. Ad. Burggraeve. By J. E. Macneil, M.D. Reprint. 1889.

Original Articles.

CLINICAL NOTES ON HERPES ZOSTER.[1]

BY F. B. GREENOUGH, M.D.

THERE can be no question but that during the last few years many more cutaneous eruptions have been classified under the head of neuroses, that is to say, as being caused by some trouble of the nervous system, than formerly. This being the case, herpes zoster, the neurotic origin of which has for a long time been concealed, assumes a special interest.

Having the records of quite a large number of cases noted in the case-books of the Dermatological department of the Boston Dispensary, a large proportion of which have come under my own observation, I have thought that from their tabulation and comparison, some facts of interest might be obtained. It is true that a certain number of these records, and not a small one, only give the sex and age of the patient with the date of the occurrence of the disease, but on the other hand, in several, more complete records have been made, and in quite a number the anatomical distribution of the efflorescence is given, as also the existence or non-existence of pain.

The whole number of cases of zoster recorded is 255, during a period of sixteen years, that is, from July 1, 1873 to June 30, 1889. Those 255 cases of zoster occurred in 17,741 cases of skin disease, that is to say, the ratio of zoster to general cutaneous trouble is, on our books, a little less than 1½ %. Of the 255 cases 140 were males and 115 females, which would make the ratio about 55% males and 45% females. The statistics resulting from the tabulation of the ages of the cases were rather a surprise to me as it appears from them that the disease is decidedly more frequent between the ages of ten and fifteen, than at any other time, and not only that, but the general average of age in the cases recorded is much younger than I should have expected to find it.

I have divided the patients according to age into groups (of five years up to twenty years old and from there to eighty) of ten with the following result. Up to five years of age 14 cases, the youngest ones being 1 of three months, 1 of two and one-half and three years each.

5 to 10	32	40 to 50	12
10 to 15	59	50 to 60	18
15 to 20	38	60 to 70	17
20 to 30	31	70 to 80	7
30 to 40	26	Over 80 (being 88)	1

From this table it will be seen that 143 of the 255 cases ⅝ + occurred in patients under twenty years old.

In addition to the data of sex and age, the whole number of cases have a record as to what time of year they were observed, and I have thought that it might be of interest to see whether zoster was more frequent at one season than another, I have, therefore, drawn up the following table showing the number of cases which are recorded as having been observed during each year, which is divided into quarters of three months and I have taken the natural division by seasons, namely: winter, December, January and February; spring, March, April and May; summer, June, July and August, and autumn, September, October and November. From this examination it is found that of the 255 cases 64 occurred during the winter months; 76 during the spring months; 59 during the summer months, and 56 during the autumn months.

It will be noticed that a decidedly larger number of cases are found in March, April and May than in any of the other periods of three months. Besides the question of a greater prevalence of zoster at one season over another, it seemed to me that it would be worth while to see whether it was marked more frequent in one year then in others or whether its percentage was about the same through a period of years, and in order to determine this point I have drawn up the following table. The first two entries are not of a year each and need explanation.

I first made a statistical tabulation of the cases at the Boston Dispensary when they reached the number of 5,000, which they did on November 26, 1876. From that time to July 1, 1878, I tabulated 2,494 cases and from July 1, 1878 up to July 1, 1889, I have reported the statistics yearly to the Committee of this Association. A reproduction of these reports gives the following results as showing the percentage of herpes zoster to general skin diseases during the mentioned periods of time.

July 1, 1873, to Nov. 26, 1876,	5,000	cases,	99	of Zoster,	or −2%
Nov. 26, 1876, to July 1, 1878,	2,494	"	30	"	or +1.5%
July 1, 1878, to July 1, 1879,	872	"	18	"	or +2%
" 1879, to " 1880,	872	"	10	"	or −1.5%
" 1880, to " 1881,	808	"	12	"	or −1.5%
" 1881, to " 1882,	885	"	17	"	or −2%
" 1882, to " 1883,	646	"	10	"	or −1.66%
" 1883, to " 1884,	841	"	11	"	or −1.2%
" 1884, to " 1885,	1,025	"	13	"	or +1.2%
" 1885, to " 1886,	1,094	"	21	"	or −2%
" 1886, to " 1887,	974	"	11	"	or +1.1%
" 1887, to " 1888,	1,072	"	19	"	or −1.4%
" 1888, to " 1889,	1,158	"	16	"	or −1.33%

GENERAL AVERAGE.

July 1, 1873, to July 1, 1889, 17,741 cases, 255 of Zoster, or −1.5%

From this table it would appear that during sixteen years the percentage of zoster has not varied largely, the extremes being + 2% and + 1 1/10 %, which is certainly not a large enough variation to warrant the conclusion that during that time anything like an epidemic of the disease had occurred. On the contrary, it seems to have kept as close to the average, 1½%, as could be expected to be found in any of the records of average occurrence of disease deduced from statistics going over so long a period, which was not liable to be influenced by marked epidemic increase in certain years. This seems to me to be of especial interest, as if, as my statistics show to be the case, the months of March, April and May show a decidedly larger number of cases of zoster than any other three, we must assume that the disease is influenced by certain factors which must be more prevalent during those three months, and if such is the case, one would suppose that said factors, especially in our New England climate, might be much more prevalent some years than others. I am entirely begging the question as to what these factors may be, but merely want to state that if a certain season of the year seems to be especially productive of zoster we are justified in thinking that certain years ought to be much more so than others, which, according to my statistics is not the case, and although these are not very large in number, an average of over 1,000 cases a year, for a period of sixteen years, ought to give some approximation to the general truth. In view of the result of the investigation as to possible epidemics of zoster, so

[1] Read at the Annual Meeting of the American Dermatological Association held in Boston, September 17, 18 and 19, 1889.

to speak, I was much interested by hearing from my friend, Dr. Bowen, that at the service at the Massachusetts General Hospital he had lately had many more cases than usual and also that they seemed to be of an especially severe type. I thought it well to overhaul the Boston Dispensary records from July 1st, up to which time my tables extend, and found that during July and August three cases were recorded in 231 of skin disease, that is an average of $1\frac{3}{10}\%$ which is close to the general average of my sixteen years, that is $1\frac{1}{2}\%$. Dr. Bowen was kind enough to look up the record of the Massachusetts General Hospital and found that the number of cases of zoster reported in January, 1889, was three; in February one; in March one; April one; May one; June two; July two and in August seven.

This is certainly a very large increase, especially when we consider the great regularity of the numbers running through the preceding seven months, and what is more, the cases were exceptionally severe in type.

These statistics, with regard to the ratio of zoster to general cutaneous affections, the comparative frequency of the disease in the two sexes, the relative frequency of it during the different seasons of the year, the average of its occurrence yearly for the period covered by the records, and the comparative frequency in which it is found in the various periods of age, are all that can be deduced from the 255 cases as a whole. This is due to the fact that during the first few years of the dermatological service at the Boston Dispensary, these facts were the only ones recorded. Later, more complete notes on each case of zoster were made, and we have the anatomical distribution of the efflorescence given, and also in a smaller number of cases, the presence or not, of pain noted. It may be said that the two chief reasons for assuming a connection between zoster and some nervous lesions are, first, that in a rough way the eruption is found to be distributed over the branches of certain nerves, and that, in too large a proportion of cases to be considered merely a coincidence, it is preceded, accompanied or followed by a pain, which is decidedly of a neuralgic character, and not to be confounded with the soreness which might be attributed to the eruption itself. Statistics as to these two conditions, therefore, are important in considering this subject.

In 160 cases the situation of the eruption is given, and from a tabulation of them and a classification into groups that covered about the same regions of the cutis, it appears that they were distributed as follows:

Occipital and clavicular region,	3	Clavicular and deltoid	1
Occipita, sternal and deltoid	1	Breast, shoulder and arm	1
Frontal and scalp	1	Brachial	6
Nucha, brachial and breast	1	Brachial and pectoral	1
Facial	11	Digital	1
Cheek and ear	4	Base of thumb	1
Aural	3	Costal	73
Submaxillary	1	Abdominal	8
Cervical	11	Abdominal and crural	1
Cervical and scapular	1	Lumbar	1
Shoulder	4	Lumbar and iliac	1
Scapula, axilla and clavical	2	Iliac	1
Scapula, axilla and pectoral	1	Penis and crural	1
Scapula, axilla and brachial	1	Penis, scrotal and crural	1
Scapula and deltoid	2	Crural	6
Scapula and brachial	1	Leg	3
Scapula and pectoral	1	Gluteal, calf and sole of foot	1
Scapula and costal	1		160
Back	1		
Pectoral	1		

From this table it appears that by far the largest number of cases in any one region are costal, nearly 50% of the whole; next in frequency comes those in which the eruption is situated in the cervical region, branching on to the occiput, the ear and face, clavicle, deltoid and scapular, then the scapular cases, extending over the shoulder to the clavicle, or in the axilla and onto the pectoral region, or down the arm; then the abdominal, with the lumbar and illiac, and last those found on the lower extremities.

With regard to neuralgic pain as a concomitant symptom of zoster, I regret that I only have records in 73 cases, but comparatively small as this number is, some interesting facts are shown by an examination of them. In 17 of these cases, there was no pain; in 37, pain existed; in 19, severe pain was felt.

From clinical observation, I should have said that pain, in cases of zoster, was very apt to be in proportion to the age of the patient, that is to say, that the older the patient was, the more likely was pain to accompany an outbreak of zoster, and it was with much interest that I went through the process of taking the age of each patient in whose case a record on this subject was made, and figuring out the average, which resulted as follows: The 17 cases in which no pain was reported, —19 years; the 37 in which pain existed, +28 years; and the 19 in which severe pain was felt, +44 years.

The general result was satisfactory, but I was rather surprised at the wide range of age in each class, which, while as a whole comfirming what I felt sure from observation must be true, showed what great variations are to be found of general laws, in individual cases.

The ages of the 17 cases without pain were, 3, 4, 5, 6, 6, 7, 8, 13, 13, 16, 16, 17, 22, 34, 45, 47 and 62; average, —19.

Of the 37 cases in which pain was a symptom, 4, 5, 6, 8, 9, 11, 11, 11, 11, 12, 12, 16, 17, 19, 19, 19, 20, 20, 20, 24, 25, 27, 27, 30, 32, 34, 38, 38, 40, 40, 45, 51, 56, 65, 65, 67, 70; average, +28.

Of the 19 cases in which severe pain was noted, 18, 21, 22, 27, 29, 31, 31, 35, 42, 45, 45, 50, 50, 52, 55, 64, 65, 72, 74; average, +44.

It must be understood that these 73 cases are the only ones in which any record as to pain was made, and not be supposed that in the much larger proportion of the 255 cases entered on the books, no pain was felt because not noted. This is due to the fact, that it was not until the department had been running for some time, that records on the subject of pain were made, and even after that, they were omitted occasionally both by myself and by my colleagues who had the service when I was away. I think that the above ratio, therefore, of 73 cases, may be considered a fair one; namely, no pain in 17 cases, some pain in 37, and severe pain in 19. And what seems to me especially interesting, is that the average age of the cases in which a record on the question of pain is made, shows that age does have a decided influence on it.

Assuming that the pain, which in a by no means insignificant proportion of cases of zoster, is found as a symptom, is due to some lesion, or at least, a functional impairment of the nerve over the course of whose cutaneous terminal branches the eruption is developed, the question naturally arises as to whether the sensitive fibres of such nerves are only affected, or whether the nerve as a whole is temporarily in an abnormal condition, that is to say, its motor fibres also having their functions interfered with. As the great majority of cases of zoster are found over the superficial cutaneous branches of nerves, whose motor fibres might be

paralyzed without any evidence of such being the case being noticeable, it is not to be wondered at that the lesion of the sensitive fibres is noticed, and that of the motor fibres is not. In two cases that I have known of, however, marked facial paralysis was due to this cause. The first of these cases is one I saw and reported in full, twenty years ago.[2] The patient was seen through the kindness of Dr. John Homans, and the history of the case condensed, is as follows: He had had some thoracic acute trouble which was undoubtedly pneumonia, and which had left some consolidation of lung tissue. During the last part of October, 1868, he had been troubled much with neuralgic pains on the left side of his face and neck. On November 1st, an eruption appeared on the left side of his neck, which he described as consisting of "blisters," some of which he pricked, and a clear, transparent fluid oozed out, the pain continued, but not so severe after the eruption was developed. On November 11th (the eleventh day), he felt a "numbness" of the left side of his face, he could not close his left eye, and his mouth was drawn to the right. He was much troubled by his food getting between his gums and his left cheek, from whence he had to remove it with his fingers. The left eye become congested and painful. I first saw him on November 19th (nineteen days after the eruption had appeared), and found on the neck extending to the thyroid cartilage in front, and running backwards to just below the occipital protuberance, with an extension upwards, behind the ear, several patches of what evidently had been vesicles, some of them being covered with crusts, and others, where the crusts had been removed, showing superficial ulceration, with an angry red areola surrounding them. The left eye could not be closed, the left nostril was flat, and the mouth was drawn to the right. This facial paralysis gradually improved, and when I last saw him, he had recovered the full power of his facial muscles. The eruption, however, left decided cicatrices.

The other case of facial paralysis is one that I did not see until over a year from the time of the eruption, but the case had been under the care of a physician whose diagnosis of zoster, would be accepted by any of his colleagues, even if the history of the case did not confirm it. The patient, a young lady, had not been feeling well, and for two or three days had been troubled with pain in her left ear, something like a sore throat, and a "weakness" in her left eye. Her mother urged her to call in their family physician, and he found no evidence of anything more than a feverish cold — this was on a Wednesday. Her left ear continued to be quite painful, and on Saturday morning when she arose, she found that her face was "twisted," her mouth being drawn to the right. Her physician when he called found an eruption of zoster about her left ear. The facial paralysis has improved somewhat, but it is still quite marked.

Both these cases of facial paralysis due to, or at least coincident with an outbreak of zoster, seem to me to be especially interesting from the fact that the efflorescence was not in the region of the motor nerve (that is, the facial), which supplies the muscles that were paralyzed, but in the neck and more especially about the ear. The connection between the fibres of the cervical branches, the auricularis magnus more especially, with the facial, explains it. In both cases the auditory nerve showed sympathy with the facial nerve.

These are the only cases in which I have felt sure that actual paralysis of motor fibres could be assumed although I have seen a case of crural zoster in an elderly lady where I was in doubt whether the inability to move the limb was due merely to the pain and soreness, or whether there was actually some loss of power in the motor nerves. Zoster ophthalmicus is more likely to come under the observation of the occulist then the dermatologist and in the dispensary cases I have reported there was only one that aproximated to that serious trouble. It was one of the cases classified as "facial" where the eruption was on the forehead and cheek and for two or three days there was a violent conjunctivitis which passed off, however, without any evidence of deeper seated trouble. The anastomoses between the fibres of the cervical nerves (mixed nerves, that is sensory and motor) through the superficialis colli, the auricularis magnus and occipitalis minor with the facial (a motor nerve) and the trigeminus, the ophthalmic and superior maxillary branches of which are sensory while the inferior maxillary not only has sensory and motor fibres but also one branch of the gustatory or lingual belongs to the nerves of special sense and in addition the connection by ganglia with the sympathetic are such as to make it not improbable that impairment of function of one of these nerves coexistent with a lesion of another one, might be conceded as cause and effect. It is on this account that I have thought it worth while to report rather in full the two cases I have seen where zoster in the auricular region was accompanied by facial paralysis.

In looking back over the cases of zoster I have seen, there are a few points that seem to me worth mentioning. Unilateralness is always stated as being one of the characteristics of this eruption, that is to say, that it does not extend beyond the median line. In some cases of costal zoster on inspection this does not seem to be the fact. I have seen several where the efflorescence appeared to extend beyond the median line on the back. A careful examination, however, has shown that in these cases there was a slight lateral curvature of the spine, enough to throw the spinous processes out of the perpendicular and although the eruption appeared to extend beyond the median line, it was on its own side (so to speak) of the spinal column. One of the cases reported as facial is also reported as having the eruption on both sides of the nose. One case was unique, I think, it was that of a boy five or six years old who had a well-marked zoster on his scapular deltoid and clavicular pectoral region on one side, and lumbar iliac and abdominal on the other. I thought that I had put this case on record with an outline showing the distribution of the two-sided eruption, but I cannot find it, and it must be that I spoke of it at some society meeting and drew the outline on the blackboard. I should not be willing to say that I had never seen a case in which one or two vesicles extended slightly beyond the median line in the sternal region, neither should I be willing to say that I had. I have seen two or three cases where I was in doubt on the subject, but the over-lapping, if any, was so slight that only the most careful and accurate measurements could have determined this point.

From my statistics it appears that nearly one-half of the cases of zoster seen are costal, and I should say that a large proportion of the costal cases are distri-

[2] Boston Med. and Surg. Journ., Jan. 28, 1869.

buted somewhere between the fifth and eighth rib, the bulk of the eruption being apt to be on the side of the thorax with usually a few vesicles near the median line behind, and also, but not so frequently I should say, the same in front, although when the crop of vesicles is closely crowded together, they are apt to coalesce. The individual vesicle of zoster does not show the tendency to increase in size that other vesicular or bullous eruptions do. At times we see a hæmorrhagic tendency in the vesicles, and it is different in appearance from any other hæmorrhagic bleb I have seen. The color is rather a blue, or at most a purple one, than red, and although I should say that such cases suffer more from soreness of the skin lesion, I have not been able to convince myself that they show any evidence of more neuralgic troubles than others. Another fact that I have noticed is that the extent or size or angry-looking condition of the efflorescence cannot be taken as an indication of cicatrices being left. Of course, the question as to whether the eruption does or does not leave scars is dependent on whether the papillary layer of the cutis has been distroyed or not, but I do not think that this fact can be determined by the character of the eruption during its vesicular stage.

On the extremities zoster seems to follow the course of the cutaneous nerves, in most cases being confined to the upper part of the extremity and then generally connected with some manifestations on the trunk also, as in the case of the upper extremity, scapular, clavicular or pectoral, and in case of the leg, lumbar, iliac and gluteal. Two cases, however, showed the eruption only at the terminal end of the brachial nerves, one at the base of the thumb and one on one finger. The only case in which the eruption extended below the knee, was the one recorded as gluteal calf of leg and sole of foot.

While the difference between typical cases of zoster and the other two divisions of herpes, that is, facialis and progenitalis is well-marked clinically I think we see some that are not so easy to classify. I can remember a case of herpetic eruption on the shaft of the penis in a patient whom I had treated for relapsing herpes progenitalis, that if I had not known of his previous attacks, I should have called zoster, and I have seen a case of herpes labialis, or rather facialis as it was not confined to the lips, coming on in connection with a febrile catarrhal attack, which if there had only been one vesicle besides those on and just about one side of the mouth, on the cheek, neck and ear, anybody would have diagnosticated as zoster.

In this connection I want to state a personal experience. Last winter, after suffering from severe neuralgic pains on one side of my face due to the filling having come out of a bicuspid that had become carious at and below the level of the gum, I had that peculiar feeling of numbness and fulness of the mucous membrane of the lower lip at the corner of the mouth which precedes an attack of herpes labialis. This was so marked that I told a friend that evening that I was in for about as nasty a "cold sore" as one could have, and I was much astonished on rising next morning to see that the mucous membrane was normal and had not been raised by a large vesicle. This has been repeated twice since. Of course, the feeling as though a vesicle was there and one really being there is a very different thing, but it seemed to me interesting as connected with well-marked neuralgic pain of known origin.

With regard to the treatment of zoster, I have very little to say beyond that it should be symptomatic, that is to say, that I do not believe the course of the eruption can be aborted or shortened, or that cicatrices can be prevented by any application or the administration of any drug. It is important to prevent any friction or irritation of the skin, at the seat of eruption. With regard to the vesicles I should say decidedly that it was best to let them alone as they do better by being allowed to dry up and scab over than by being emptied artificially, in this respect, I think, being different from most eruptions of a vesicular character with a tendency to become pustular. The eruption can be protected from the air and friction from the clothes in a degree by the use of powders, such as oxide of zinc and starch, or oleate of zinc and starch, or plain flour, for that matter, or by ointments of zinc or boracic acid, etc. I have found in costal cases a large plaster made by spreading diachylon ointment on a piece of linen the right size and shape and put on to be kept on permanently, to work well. When neuralgia exists I do not believe that any topical application will control it, at least I never have been able to do so, neither have I ever got any benefit from quinine or other anti-neuralgic remedies. I must admit, however, that in the cases reported, the fact of their being Dispensary out-patients makes them of not much value as examples of the result of any special treatment. What I have said, however, is borne out by the result of my experience in the very much smaller number of cases of zoster that have come under my observation in private practice. I have not used cocaine but I should doubt whether its use externally would control a really severe case. When necessary, we have always at least a temporary relief in a hypodermic administration of morphine. In cases where pain persists afterwards, and cicatrices are formed, a circular incision around them deep enough to go through the cutis and divide any nerve filaments that might be bound down by cicatricial tissue, might be of value.

I have not attempted in this communication to give any resumé of what is known at the present time of such a thoroughly understood disease as zoster, but having records of quite a number of cases I meant to simply deduce what statistics I could from them. Having done that, there were a few points which had struck me as interesting during my observation of the cases and I have in a brief and hurried way referred to them. The only excuse, however, for my having occupied your time, is the fact of my having quite a large number of cases from which to calculate certain ratios and averages which however uninteresting they may be to listen to, may furnish data for important work in the future.

— The Paris correspondent of the *American Practitioner* gives an account of a case of syphilis of the mouth of unusual origin. The patient, a girl of twenty years, had for three months had superficial lesions of the lips, at first supposed to be eczematous, but afterwards shown to be chancre. The patient was a factory girl, and there was working in the building a young man who had sores about his lips. He, as well as the girl and several others, frequently used the same speaking-tube. It is probable that by placing his lips on the mouth-piece and leaving on it virus, that he infected the others, who also pressed their mouths against it.

PRIMARY CANCER OF THE GALL-BLADDER AND BILE-DUCTS.[1]

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Symptoms.[2] — The most frequent symptoms and signs observed in the course of carcinoma of the gall-bladder are pain, jaundice, emaciation, cachexia, and the presence of a tumor. Digestive troubles, vomiting, constipation, diarrhœa, fever and ascites occur in a considerable number of cases, and are worthy of detailed study.

Pain. — This is a symptom the presence of which was noted 62 times. It was located in the right hypochondrium 25 times; in the epigastrium, 17 times; in the abdomen, nine times; in the hepatic region and right side, four times; in the right shoulder, three times; in the back, twice; in both hypochondria and at the umbilicus, once each. It was associated with tenderness in the right hypochondrium or liver nine times, and was increased by movement or position. In nine instances it was colicky; in three, lancinating; in four, paroxysmal; 16 were of varied character; in three instances dull; and in four, constant. In two instances pain unqualified was noted, and in two it was noted as absent. In a very large proportion of the cases the pain was preceded by a sense of weight or uneasiness in the right hypochondrium. Certainly the pains increased in frequency and severity as the disease progressed. The abdominal pain above noted was due in nearly every instance to peritonitis, so that practically pain in the right hypochondrium or epigastrium of a colicky or lancinating nature is seen in a larger number of cases of cancer of the gall-bladder.

Jaundice. — Observed in 69 cases. Characterized as slight in six cases; transitory, in one; recurring, in one. In 58 instances, however, the jaundice gradually increased in severity until it presented the characteristic olive-green or deep yellow appearances of chronic icterus. In a few instances it developed less than one month before death, and in three less than three months. The jaundice was due to new growth in the ducts, the pressure of enlarged glands, or to catarrhal or purulent inflammation, or the results thereof, that is, adhesion of the walls. In two instances stones were impacted in the common or hepatic duct, and in one instance the hepatic ducts were dilated on account of the passage of a gall-stone a few days before death (Kohn). Accompanying the jaundice in its final stages, delirium in three and coma in five instances were observed. Itching is noted three times.

Emaciation. — Distinctly noted 44 times, but no doubt much more prevalent, as will be seen later. Death often took place from acute complications before the disease had progressed very far. In Wagner's case the flesh was preserved; the patient (a woman) died of peritonitis. In 22 cases debility, weakness or exhaustion are recorded.

Cachexia. — Noted in 14 cases. The deep jaundice prevented the recognition of the characteristic cachexia very frequently, no doubt.

Vomiting. — Due to catarrhal gastritis, to pressure of external growths, or to secondary growths in the viscus, occurred in 39 instances. Usually of the ordinary character, in three instances it was bloody, in one stercoraceous (Lang Heinrich's perforation of gall-bladder and colon, peritonitis). In Pepper's case there was bilious vomiting, no jaundice, and no bile in the stools. Pressure on and occlusion of the duodenum by the enlarged gall-bladder caused the phenomena. In two instances nausea without vomiting and in five with it, took place.

Diarrhœa was present in 15 cases; *constipation* in 23. Diarrhœa occurred more frequently from other causes than perforation of the colon, as intimated by some.

The *appetite* was lost in 15 instances, and *indigestion* marked in 13 cases. These figures are small, no doubt, for these symptoms. Hiccough is recorded four times, ptyalism once and dysentery once.

Fever. — The temperature was subnormal or more frequently normal; eighteen had marked fever, in some a few days before death only, in others as long as one to four months. In three instances it was distinctly intermitting. In every instance it was due to some complication, either inflammation of the bladder or ducts, peritonitis or ulceration. If, therefore, this symptom arises in the course of the suspected disease, it is due to one of these causes. It could be due to calculus impacted in the duct no doubt, although such circumstance was not reported.

Ascites was noted in 18 cases, and was almost always due to pressure on the portal veins, either by the primary growth or the lymphatic glands. In twelve instances there was œdema of the legs, and in two anasarca.

Hæmorrhages were noted in seven instances. The hæmorrhages were due to passive congestion from local obstruction, or to secondary growths, or were of the nature of such discharges in chronic jaundice, and occurred from mucous surfaces remote from the disease.

Tumor. — 68 times a tumor was discovered. The following numbers represent the frequency of location in the positions indicated:

In the right hypochondrium or gall-bladder region	27 times
Attached to the liver	10 "
In umbilical region	12 "
In the iliac fossa	4 "
In the flank	2 "
Near the pylorus	1 "

The positions of most frequent occurrence are, therefore, the right hypochondrium and the umbilical region. All the tumors that occurred in the umbilical region were thus placed because of enlargement of the gall-bladder, or enlargement of the liver. If the latter organ is enlarged, a tumor in the umbilical region, particularly to the right of the median line, is probably an enlarged gall-bladder.

Size of Tumor. — This was only noted 13 times. From the descriptions one concludes the organ was seldom larger than normal. It is said to vary in size from a hazel-nut to a child's head; of the latter three instances are recorded. In the course of the disease it may change. This is especially true if fluctuation has been previously detected. By ulceration the contents are discharged, and the tumor disappears. One disappeared after a copious emesis of mucus and bile, the temporary occlusion having been removed. Sometimes they disappear temporarily on pressure (one case).

The tumor was movable as above or with respiration (2); movable on palpation (6); fluctuating (3); fixed

[1] Continued from page 529 of the Journal.

[2] It should be remembered that in a small percentage of the cases, particularly those of Zenker, there is no record except of the autopsy. It may be assumed, therefore, that the symptoms noted below occurred more frequently than the numbers I have given indicate.

(6); elastic (2); solid (11); smooth (3); in 22 instances hard or firm; in 21 painful or tender; in 9 irregular; three of which are noted above among the "hard," and the remainder are presumably hard. Practically the tumor was movable in eight instances, and fixed or firm in about fifty cases in which the character is recorded.

Shape. — Noted ten times: round (5); oval (1); pyriform (2); cylindrical (1); oblong (1).

Two of the tumors are described as growing rapidly. We may conclude, therefore, that a tumor in the right hypochondrium, or occasionally in the umbilical region, about the size of the fundus of the gall-bladder, hard and painful, and of indifferent shape, is found in cancer of the gall-bladder.

Liver. — During life the liver was found to be enlarged 29 times, five of which times it was irregular or nodular, and four times it was of the same character, the size not stated. The border was thickened (1); smooth (4); hard (3); and the surface tender (4). No significance attends change in the liver except enlargement. This is due to secondary growths, or to dilated channels.

The clinical picture, therefore, of cancer of the gall-bladder is about as follows: The patient, usually a female past forty years, suffers for an indefinite time with a sense of weight, or of uneasy sensations in the right hypochondrium or epigastrium. This is followed by pain, intermitting generally, for a variable period not sufficiently marked to call for local examination, but gradually increasing in frequency and intensity. Jaundice then develops, usually gradually, and upon its occurrence examination is made of the hepatic region. A tumor is generally detected, the presence of which probably had not been suspected, occupying the region of the gall-bladder in health, or found below that region and to the right of the umbilicus. The tumor is usually small and hard, but painful on pressure. With the onset of jaundice the symptoms of indigestion, which were present from the first, become more aggravated, loss of flesh and loss of strength are then noted, and with the persistence of the jaundice its usual deleterious secondary phenomena are induced. In the larger majority of cases these symptoms continue with the final termination of the case, and death is caused by exhaustion or by a cholæmia or by intercurrent disease. In quite a number of cases, however, other phenomena may occur in the course of the disease, the symptoms above noted being essential. Thus, in some cases, fever commences at first about the middle period of the disease and continues to the end, either being intermitting or of continuous character, and always due to the presence of inflammatory complications. Vomiting may be one of the important and persistent symptoms, particularly if there is noted marked increase in the size of the tumor. Constipation, often present throughout the course of the disease, is naturally expected. Diarrhœa attends quite a number of cases, and its onset after an attack of increased pain and local tenderness in the gall-bladder region, associated with fever, is often caused by the occurrence of ulceration between the colon and the gall-bladder. In a few cases ascites is noted, and its occurrence as an accidental complication must be remembered. Throughout the course of the disease the liver usually remains about the normal size.

Diagnosis. — The diagnosis of this affection presents the same difficulties that arise in an attempt to recognize chronic affections of the organs and tissues in the upper central half of the abdominal cavity. Early in the history of the case it is impossible to make a positive diagnosis, while even in its full development the difficulties often are not much lessened, but by attention to the perfect evolution of the disease, as indicated in the symptomatology, coupled with a consideration of its frequent etiological associations, and with exclusion (by the customary means and by recent methods of clinical research in gastric diseases) of disease of the surrounding viscera, carcinoma of the gall-bladder can be more than strongly surmised.

Not much can be learned from the mistakes of writers or the difficulties that they encountered in their observation of this disease. One can readily appreciate their difficulties, however, and easily understand how the disease can be confounded, as it has been, with cancer of the pylorus, with cancer of the liver, and with an ovarian tumor, when one remembers the extraordinary changes of position and structure which malignant disease of the gall-bladder may undergo. Even in the light of the clinical history with the autopsy one can scarcely see how anything but the diagnosis of an ovarian tumor could have been made in Case XII of the table accompanying. In this instance the gall-bladder was enormously distended and adherent to the round ligament, occupying the position which ovarian tumors usually take in the abdominal cavity. In some few instances the tumor was mistaken for a floating kidney: the methods of differential diagnosis we will refer to again.

As aids to the diagnosis, we must first bear in mind the age and sex of the individuals, and the prominent relation of gall-stones to this affection. They appear to be more striking factors in carcinoma of the gall-bladder than in carcinoma of any other organ in this neighborhood. Another minor but important fact in the differential diagnosis is the short duration of the case; the average duration, between six and seven months, is certainly shorter than in cases of carcinoma of the pancreas and carcinoma of the stomach.

Before attempting a differential diagnosis of the various affections with which this disease may be confounded, let us consider the prominent symptoms of cancer of the gall-bladder, and determine, if possible, if there are any characteristics of them that pertain particularly to this affection. Pain is the first and most prominent of these, but does not differ from pain due to any other disease in this neighborhood, and is especially allied to the pain of carcinoma of other organs; of itself, therefore, save in location, it is not a valuable diagnostic factor; nor is jaundice of itself of much value. It indicates that there are obstructions in the biliary passages, but of the nature of these its occurrence gives no clue. Emaciation is common to most of the affections of a chronic nature here found, and it, too, is not of any value. The occurrence of fever is only an index of the occurrence of processes secondary to the malignant growth, processes, too, which may occur secondarily to any obstruction of the biliary passages. In it, likewise, we see no positive value from a diagnostic standpoint. The cachexia, which is insisted upon by so many authors as presenting a valuable aid to diagnosis, simply indicates, if its presence can be determined, that there is malignant disease, the exact nature of which, however, it does not, of course, determine. Indigestion, loss of appetite, the

vomiting that possibly occurs, are likewise of small diagnostic value. The occurrence of the tumor is certainly the only distinctive condition of this affection which may be studied independently or without association with the other symptoms. Singly, therefore, the symptoms just enumerated are of no value whatsoever, but taken together, observing their association in the proper relationship which we indicated under the symptomatology, they are of value, and only in that way.

Tumors of the Gall-Bladder. — A word further, however, regarding the malignant tumor of the gall-bladder and tumors with which it is confounded. The size and shape and the position of the former tumor must be borne in mind. It frequently changes in position as adhesions form, and sometimes in shape, as when perforation takes place. Thus a tumor found early in the right hypochondrium may later be found in the epigastrium or about the umbilicus. At first smooth and fluctuating, it may diminish in size and become hard and irregular. Usually noted as fixed, it is sometimes quite movable. It may contain bile or calculi, or simply the clear fluid the accumulation of which is known as hydrops vesicæ felleæ. If the tumor is believed to be the gall-bladder, one must distinguish enlargement of it from accumulation of its contents and enlargement of the organ from disease of its walls. The tumor due to the accumulation of fluid occupies a similar position but is generally much more movable than tumors due to cancerous disease. Their characters have frequently been dwelt upon. They are usually painless, and the nature of the fluid can be determined by the aspirator. Dropsy of the gall-bladder occurs from obstruction of the cystic duct, which may be due to a stone or to the inflammation that follows the passage of a calculus, or to an adherent inflammation which attends some forms of chronic catarrh of the ducts. It may attain a large size, and indeed is usually of larger size than in cancer, is painless, and is generally, although not necessarily, associated with the symptoms of obstruction of the hepatic and common ducts. A history either of gall-stones, or in the writer's experience, more frequently of catarrh of the ducts, antedates the development of the tumor.

The exact nature of a tumor of the gall-bladder can be more definitely ascertained by means of aspiration, and by determining the nature of the fluid contained in the viscus an idea can be formed of the morbid process. The presence of stones can be ascertained, if the gall-bladder is enlarged from that cause, by means of the aspirating needle, too, or by a probe introduced through a canula as has been previously described by various writers. One must remember, however, that calculi are present in cancer of the gall-bladder in the various relations previously described, and, therefore, the presence of a stone as detected by a needle does not necessarily exclude carcinoma. Moreover, one can readily be deceived by this means of exploration, for the hard scirrhus masses very frequently give to the hand the same sensation of hardness, and even the same character of sound, that one gets with stone. The calculi often by palpation move upon themselves, causing a peculiar grating sensation, and even a rubbing sound can be created, and the tumor caused by their accumulation is hard and rough. The enlargement of the gall-bladder due to an accumulation of fluid is usually progressive, and more rapidly increases in size than a carcinoma. One cannot possibly, from the physical characters of the tumor, determine the nature of the obstruction; for a carcinomatous mass small in size may obstruct the outlets of the flow of bile and cause this tumor formation.

A clear fluid would indicate obstruction of the cystic duct; and other symptoms being latent, such obstruction is in all probability due to inflammation with adhesion of the canal. Tumors containing bile indicate obstruction of the common ducts, as by a calculus or by external pressure, the exact nature of which can only be ascertained by the history of the case and by the order of development of the different phenomena. Tumors of the gall-bladder may be due to purulent inflammation with accumulation of pus. The aspirator would reveal the nature of the tumor, while the phenomena of inflammation would contribute to its recognition. Of course, just such condition takes place in cancer of the biliary passages, is frequently an epiphenomenon, and therefore the presence of symptoms indicating it are weighed with the previous symptoms indicative of malignant disease of the gall-bladder. Just as in the other conditions indicated, the nature of a tumor of the gall-bladder cannot be determined without studying also the general symptomatology and etiology in each individual case.

Having considered the characters of tumors of the gall-bladder, other affections which are associated with or are the cause of tumors in the right hypochondriac or umbilical regions must be excluded.

Jaundice from cancer of the pancreas is most common; the differential diagnosis between the two affections is of importance. On the whole, the presence of a tumor of the character of cancer in the region of the gall-bladder, or to the right of the median line, would exclude cancer of the pancreas; in both a tumor is possible. In cancer of the gall-bladder its position is somewhat different; it is certainly superficial and is movable with respiration or with the movements of the liver. The tumor of cancer of the pancreas is deep-seated, in the median line more particularly, and fixed absolutely. Cancer of the pancreas is attended with fat in the stools in many instances, and is more frequently associated with ascites than is malignant disease of the gall-bladder. In both affections there is jaundice, emaciation and cachexia. In both there is abdominal pain, but it is more commonly present in cancer of the gall-bladder. Dyspeptic symptoms appear, however, to be more marked in cancer of the pancreas, and particularly is vomiting of more frequent occurrence.

Cancer of the pylorus presents some symptoms in common with cancer of the gall-bladder. In cancer of the pylorus, however, jaundice is rare, while the tumor is likely to be in a different position, possibly more frequently near the umbilicus than in cancer of the gall-bladder, while it does not attain great size without much more marked gastric phenomena than occur in cancer of the gall-bladder. Pain attends both. In cancer of the pylorus it possibly has a more definite relation to the time of taking food. Usually dilatation of the stomach supervenes upon cancer of the pylorus, while chemical examination of the gastric juice or the matters washed out of the stomach may indicate the presence of cancer of that organ, or at least of organic disease. Disease of the lymphatic glands in the portal fissure, the symptoms of which simulate cancer of the gall-bladder, may be determined by recognizing disease of these structures in

other parts of the body, or of distant disease, as carcinoma or tubercle, which may lead to secondary disease in these glands. The tumor due to disease of the lymphatic glands, which simulates the enlarged gall-bladder, of course, only is of the same character as any enlargement on account of accumulation of fluid. The glands themselves cannot be made out by palpation. We can only suspect their presence, therefore, by the means just indicated. This presumption is made more probable by the absence of pain or of local tenderness. Tumors of the omentum and mesentery rarely, if ever, assume the position that tumors of the gall-bladder occupy. A tumor of the mesentery, for instance, does not occupy as limited an area, but will fill the umbilical region and extend into the epigastric or hypochondriac regions; while tubercular disease of the omentum causes a transverse tumor of the abdomen. They rarely produce jaundice, and are likely to be secondary to processes similar to disease of the lymphatic glands in the fissure. If tubercular, ascites is always present, and the general phenomena of tuberculosis, fever, sweats, etc. Tumors of the omentum, non-tubercular, are usually found in a lower position in the abdominal cavity, and if cancerous are associated with bloody effusions in the abdominal cavity. Cancer of the transverse colon may cause symptoms very much like those of cancer of the gall-bladder. Symptoms due to stenosis of the bowel would arise, however, early in the course of the former disease, while they do not occur in the latter. Then, too, the phenomena of each usually differ.

The enlarged and movable gall-bladder may be taken to be a floating kidney. Landau refers to such a case. Mears has recently had a case of tumor of the gall-bladder which was mistaken for a floating kidney, and once in the writer's experience a large, rather firm, rounded tumor in the gall-bladder region, movable on pressure, and after some prolonged pressure disappearing entirely for hours or even a day, when the patient was kept at rest, was thought to be a floating kidney. The tumor had all the characteristics of a solid tumor, but was due to an extremely distended bladder filled with bile, the duct being obstructed by a small secondary carcinoma. One can conceive considerable difficulty, however, in certain instances in the differential diagnosis, particularly in those cases of floating kidney which are attended with colic. The general condition of the patient, and the evidences of alteration in hepatic structure or function are to be considered. For practical purposes cancer of the gall-bladder need not be distinguished from primary cancer of the liver. It can, however, generally be so distinguished by the absence of enlargement of the organ, by the almost constant occurrence of jaundice, by the absence of general hepatic pain, and by the absence of the irregular outline or masses over the surface of the liver. In all probability primary cancer of the liver is of much rarer occurrence than cancer of the gall-bladder and bile-ducts. Ascites occurs more frequently in cancer of the liver than in cancer of the ducts. Hydatid disease of the liver with or without rupture into the gall-bladder and ducts, presents no features in common with carcinoma of the gall-bladder. In both, it is true, the disease is chronic, in hydatid disease eminently so; in both there may be jaundice, in hydatid disease less frequently than in cancer; in both there is a tumor, in cancer more localized, smaller in size and more painful. In cancer emaciation, cachexia and loss of strength go hand in hand, while in hydatid disease these conditions are absent. The associated etiological conditions are far different from those of cancer, while expiration with aspirator or trochar shows the presence of an encysted fluid which has the characters of an hydatid cyst. Hydatid disease of the gall-bladder or of the gall-ducts is usually accompanied by jaundice, by attacks resembling biliary colic, and is frequently associated with fever and with diarrhœa. After an attack of colic in hydatid disease the tumor lessens because of communication with the biliary passages, and the discharge of its contents into the intestinal canal. In cancer the tumor lessens after a period of pain and fever similar to a local peritonitis. In hydatid disease the tumor usually returns; in carcinoma when it disappears it never returns.

In that peculiar disease known as multilocular hydatid disease there are symptoms very like the disease we are studying. There is found a hard nodulated tumor with intense and persistent jaundice, rapid emaciation, prostration and ascites. The tumor of a multilocular hydatid does not occupy the region of the gall-bladder usually but has the other characteristics of cancer. In almost all cases, however, this form of hydatid disease is associated with enlargement of the spleen, a condition always absent in primary cancer of the biliary passages. Of course, in this disease the age and the sex and the evolution of the disease must be remembered.

The occurrence of fever, associated with a tumor or swelling in cancer of the biliary passages, might lead one to suspect the presence of abscess of the liver. The absence, however, of jaundice in abscess of the liver, its rarity in this climate—except after ulceration in some portion of the portal area which can frequently be determined—the enlargement of the liver, the different character of tumor, its increase in size, the entire disease progressing more rapidly, are points in favor of abscess of the liver.

Duration and Course. — The duration of carcinoma of the gall-bladder appears to be about six and two-thirds months. The shortest case was seven weeks; the longest alleged to be four years. It was not included in making up the average.

The course of the disease is uniformly and progressively downward, generally; in some its course is intermitting. The symptoms abate for a while. The progress is modified by complications. Jaundice hastens the end, while the accidental occurrence of peritonitis is always fatal. In two instances death took place from perforation of the bladder into the peritoneal cavity, and in ten instances from peritonitis, and in two from perforation into neighboring organs. Cholæmia was the cause of death in eight instances, exhaustion in twenty-four, marasmus in two. Shock, dysentery, œdema of the lungs, acute pleurisy, and asthma complicated the affection, and were the immediate cause of death, once each.

CONCLUSIONS.

(1) Primary cancer of the gall-bladder is not as rare a disease as we have been led to believe.

(2) It occurs in females nearly three times as often as in males.

(3) The larger number of cases occur before sixty. It is not a disease of as late life as has formerly been taught.

(4) Gall-stones are a possible exciting cause, especially in a person predisposed to carcinoma.

(5) The organ is not generally much enlarged, save occasionally by the secondary process of dilatation.

(6) Metastasis is not widespread, and by continuity of structure neighboring organs are involved.

(7) Adhesions to adjacent organs, and ulceration and perforation are not common.

(8) Pain, jaundice, emaciation, cachexia and tumor are present in the largest number of cases, while indigestion, vomiting, constipation or diarrhœa and ascites are of more frequent occurrence than most persons think, and are important associate phenomena by means of which the disease is recognized.

(9) Pain occurs in about sixty-two per cent. of the cases, at first ill defined, it soon becomes localized to the right hypochondrium, and is lancinating in character.

(10) Jaundice in about sixty-nine per cent. of the cases. Gradually increases in intensity.

(11) Tumor in about sixty-eight per cent. of the cases. (*a*) Situated in (1) the gall-bladder region, (2) to the right of the umbilicus (when it is in the latter location the liver is usually enlarged). (*b*) Character (1) hard or firm, (2) painful and tender.

(12) The progress of the disease is almost always progressive, and toward a fatal termination.

(13) Complications are due to (1) occlusion of the ducts, and secondary effects on the liver and gall-bladder; (2) ulceration and perforation of gall-bladder; (3) the symptoms that arise by metastasis in other organs.

(14) Duration is short, the average being six and two-thirds months.

(15) Death due to (1) Exhaustion; (2) Peritonitis; (3) Metastasis to other organs; (4) Biliary obstruction.

(To be continued.)

REPORT OF ONE HUNDRED AND EIGHTY-SEVEN CASES OF MIDWIFERY IN PRIVATE PRACTICE.

BY MARIE E. ZAKRZEWSKA, M.D., BOSTON.

I PRESENT here the summary report of these 187 cases in my private practice, recorded in the succession in which they occurred at the beginning of my obstetrical career. My object in so doing is to encourage the young practitioner, who is entering on a field of work, the importance of which is so variously described in the different medical journals. To explain my meaning, let me refer to sentences like these: — "When I am called to a case of child-birth, I prepare myself as if I were going to perform a capital operation"; or, "No physician ought to follow an obstetrical call without taking with him a well-equipped bag, containing instruments, disinfectants, drugs, etc."; then follows a full, and minute list of articles, the expense of which would look like a small fortune to a young practitioner, who is warned to prepare thus, for a normal case of labor.

Such remarks in our journals are evidently intended to instruct and caution, yet must necessarily alarm the young practitioner, in regard to the most natural process in a woman's life. It is within the last decade, that in all the medical journals, East and West, may be found similar paragraphs of caution, more necessary perhaps to the country practitioner who must depend upon self, than to those in towns and cities; but the effect is to engender in the beginner an anxiety, a fear, which finds expression in manners and words towards the patients before, during, and after the lying-in period, and still more, transmitting, as it were, the same anxiety, or creating the same fear among our otherwise most sensible and courageous classes of women.

There already exists a feeling of fear and anxiety about this natural phenomena of child-birth, in just that social grade who possess the best qualifications for propagating the race by raising a number of children.

Thus the fear of losing health by child-bearing and the increase of expenditures for costly preparations, supposed to be essential, make many a couple of moderate wealth consider it beyond their means to have children born to them. If, however, such fears have not been created as yet in all classes of people, still the young practitioner himself suffers an undue anxiety concerning the possible result, when meeting neither the willingness, nor the means to carry out such preparations as he has been taught to think absolutely necessary in modern midwifery. Meanwhile, the richer woman who can provide all the costly luxuries demanded, is victimized by being over-nursed, and petted into a delicate state of health, which she did not experience before child-bearing, which thus seems the cause; but this condition would never have existed, had she been led with confidence and courage towards the great event of a woman's life, the birth of her first babe, and if she had been guided during the lying-in period with that kind of rational treatment, which is called common-sense, and had not been regarded as a sick person who was hovering between life and death, until her full recovery.

Propagation of the race is a mere process of nature, as is proved by the thousands of children who swarm the streets inhabited by our healthy working classes, where neither indifference nor neglect, yet no "preparation as for a capital operation," is practised, where cleanliness is sufficient and disinfectants are unknown. The woman, not the physician, brings the child into the world. The presence of the doctor is simply desirable in exceptional cases when abnormal conditions may occur, and when obstetrical art will assist or supplement nature.

It is for this reason that I maintain that the young obstetrician is preferable to the old, if he is not disturbed by the admonitions of which I have spoken. The younger practitioner has much more patience to wait quietly for the natural process to take its course, the lessons received concerning the action of a normal labor are fresh in his remembrance, and are applied while watching over the case. The desire to establish a reputation of success, of having "everything go well," will prevent meddlesome interference, and will encourage the woman, and strengthen the patience of both doctor and patient; and the young mother will recover far better than with the "experienced" old practitioner, whose patience is worn out, and who understands better how to shorten the healthful suffering of a woman, by using forceps, and hastening the removal of the placenta, and afterwards has to sew up consequent tears, and perform all sorts of "scientific" measures "to bring a woman through."

When I studied clinical midwifery, in 1851–52, in the Royal Charité, of Berlin, the male students remarked that the clinics were rather tedious during the winter

months from November to April, as there were so few instrumental labors. The "*accoucheuse-en-chef*" consoled by telling them to wait until summer, and she would provide them plenty of chances to see forceps used. I asked her how this could be; she simply said, "I *make* these cases then." And so it was. During the winter months, when the students in midwifery were young women, they were thoroughly instructed in the course of a normal labor, and in patiently letting nature do the work; consequently we seldom used forceps, and had very little child-bed fever. When the summer came, and young men students took the place of the young women, every third case was made a forceps-case, by untimely rupturing the membranes, or by other meddlesome interference with nature, which consisted chiefly in yielding to the *woman's* wish to put an end to her suffering. Of course, we now had plenty of interesting work, and were removed by whole wards to the isolating building, in order to stop the spreading of fevers, purulent ophthalmia, and peritonitis. When, in 1853, I took the place *accoucheuse-en-chef*, for which I had studied, I followed a different course, teaching the young men minutely the mechanism of normal labor, showing them when and how to assist nature in case of an abnormal deviation, using for this purpose the manikin, instead of the living woman; and not one single time, were we removed to the isolating building during that summer, and the young men were as well, even better satisfied with the knowledge gained thus, than in witnessing the use of forceps by the *accoucheur-en-chef*.

Of the three branches which constitute our profession — Surgery, General Diseases and Obstetrics — the latter is the only department in which we can approach to something like science. A diagnosis of pregnancy can almost always be made from the time a woman is six weeks' pregnant, and the prognosis can be deduced in advanced pregnancy with much more probability of certainty than in any condition belonging to the two other departments.

The position of the child in the uterus can be ascertained; with a little practice, the size of the pelvis can be correctly measured simply by the hand, provided the practitioner knows the size of the span of his fingers, and has paid attention to measuring the small pelvis when for whatever purpose, an internal pelvic examination is made of the condition and relations of the bones of the small pelvis.

During labor, if possible at its very early stages, the presentation of the child ought to be correctly ascertained, and this can be done, even before the os uteri is open, if the hand has been well trained; but it *must always* be ascertained before the membranes break, and therefore examinations should take place only between the pains when the membranes are soft and no danger exists of an untimely rupture; this must be repeated until the practitioner has obtained knowledge of the exact presentation. Then a prognosis, so far as the birth is concerned, can be given, provided the dynamic conditions are normal. Yet here, again, we often meet with new difficulties in the power of perception in the attendant. What are the normal dynamic forces? They are different in every woman independent of her size or appearance. It is far oftener the physician's patience gives out than the strength of the patient, and instrumental interference is resorted to, less for the benefit of the woman than for the relief of the physician from the tedious watching and constant work of encouraging the woman during the passage of the child through the pelvis.

It is a marvellous process, and every time I witness it, it is as new as at the first time when I stood by and watched a woman working to bring forth her babe. I know from experience that the older I grow the less faith I have that the woman will accomplish the task, when I hear her declare that all her strength is gone. I am even obliged to recall to my own mind, the rules I laid down to the students, that patient waiting will teach me and her better, and that she will have the strength needed, that she will accomplish the work far safer than I can do for her artificially, and with less danger of injury to the child.

It is for these various reasons that I have made the statistics of these cases in order to prove by number what cannot otherwise be affirmed. In order to simplify the records, I call all first positions, when the diameter avoiding the rectum is covered and the dorsal side of the child is against the abdominal walls of the mother. The second positions when the diameter in which the rectum lies is covered with the dorsal side of the child against the abdomen of the mother. The third and fourth positions when the dorsal side of the child lies in the dorsal side of the mother in the first or second diameter.

If such a correct diagnosis is obtained, the pelvis is well measured inside with the fingers from promontory to lower edge of pubic symphysis, and the relation of the latter to the os coccyx and the position of child is ascertained, then the physician's work is done, If the dynamic forces should now fail, easy and correct assistance can be rendered to bring forth the child; otherwise simply patience has to be exercised in order to avoid all artificial stretching of the os uteri and adjacent parts thus preventing the frequent tears of these delicate organs.

The active part of the physician's work begins only after the woman has done her work and brought the child where it can be fully seen. Then support of the perineum is to be given, and given with such understanding as to again imitate nature, preventing, if possible, the tearing of this so thinly stretched organ.

After the child is fairly in the world comes the real test of the physician's good sense, namely, in the delivery of the placenta. Here again, in most cases, nature will do the work. I always advise my students to place the woman on her back if not delivered in that position, as soon as the child is removed, thus causing a natural return of the abdomen and its contents and its walls to their place, before I even touch the placental portion of the cord. In this position the uterus will soon regain its tone, contractions will recommence and thus will be expelled what no longer belongs there, namely, the placenta. An occasional gentle touch of the abdomen under the bed-clothing will convince a practised hand whether the uterus has resumed its activity or not. If the placenta is entirely detached, the uterus will appear hard under the abdominal wall and the expulsion of the placenta into the vagina will take place within fifteen minutes in the case of a primipara, with but few pains. If it is not entirely detached as is most frequently the case in the multipara, or in premature births, then provided there is no hæmorrhage, I teach to wait quietly for an hour or more thus leaving nature to perform its task, and never interfere by putting the hand into the uterus; such interference being, I have no doubt, often the

cause of inflammation and fevers. Only in case of hæmorrhage or appearance of abnormal pains do I interfere with nature.

As soon as the placenta is felt in the vagina, and is not expelled by the muscular contraction of this organ, then a moderate pull on the placental cord will assist in ejecting it from the vulva, and with it will be brought the membranes and such clots of blood as may have been formed in the process of loosening. This simple method I call self-expulsion; and you will find that my statistics prove this to be the most frequent form.

During the last four months of my holding the position as *accoucheuse-en-chef* in the Royal Chartié, of Berlin, Professor Credé held the office of clinical professor, to which he was appointed after the death of Prof. J. H. Schmidt, my steadfast friend and teacher. Dr. Credé was ambitious for success *à tout prix*. During the winter preceding his appointment he acquired some notoriety in his efforts to gain renown by inventing a new — his own — method for delivering the placenta — the Credé Method. As soon as he had the direction of the *clinique*, he taught practically, during *his hour* of attendance, what he had before taught theoretically; while I, during *the other* twenty-three hours of the day, very unwisely perhaps, not only discouraged the young men from following his method, but when teaching the midwives, actually opposed his method.

The Credé method has been followed by many of his pupils, and even gained some reputation in this country; but now Dr Credé is making an effort to add to his fame and this time it is by renouncing lately his "method," acknowledging it to be an error, and admitting that it may have been practised to the detriment of many a woman.

I have recorded these 187 cases on a paper which I had lined and printed for the purpose; they are selected from my private practice in preference to that of the hospital; the latter can never give a criterion for the former, because the conditions and surroundings of the patients, are so utterly different in their homes from those in institutions. Also, I have collected these cases from my general records commencing in 1855, and giving them in just the succession in which they occurred, not making intervals of years between. They are, therefore, really a record, consequently include all classes and conditions, from the mechanic's wife, who could not even afford the attendance of a nurse, to the wife of the wealthiest man in the best of surroundings, who employed a nurse for months. But no dispensary patient is recorded among them.

Although I tried to make a record of all my practice, even of the slightest consultation and prescriptions ordered, yet I did not in the earlier years keep it as minutely as I might have done, had I supposed I should ever write about it, or wish to make use of it scientifically. I keep my records chiefly for my own instruction and satisfaction, in order that I may from time to time test thus the clearness of my perceptions.

I will commence by giving statistics relating to the age of the patients. The youngest primipara was 18 years old; the oldest was 41 years old; 75 primiparæ are recorded, the ages varying between 20 and 30 years. The ages of the multiparæ varied up to nearly 50 years; and the eleventh child-birth was the highest number in an individual.

The hours of birth I have not strictly kept; 60% of those whom I recorded were born between midnight and noon.

There were, with two pairs of twins, 183 infants in all, 99 boys and 84 girls; 4 were miscarriages under 16 weeks.

I had almost every infant weighed; the smallest living child was in a multipara, weight 2 lbs.; another one was 4 lbs. One pair of twins weighed 5½ lbs. and 4½ lbs., each; one pair, 6 lbs. and 7 lbs., each.

10	infants	weighed	6 lbs. net
56	"	"	7 " "
74	"	"	8 " "
31	"	"	9 and 9½ " "
1	"	"	10 " "
2	"	"	11 " "
1	"	"	12½ " "

Duration of labor from first pain to birth of child: 70 from 1 to 10 hours, 64 from 10 to 20 hours, 32 from 20 to 30 hours, 12 from 30 to 40 hours. Of these 12 cases 7 were 36 hours. There were besides these, one each of 48, 54, 60 and 70; and two of 72 hours.

These 187 cases also include 4 miscarriages, of from 12 to 16 weeks' pregnancy, and 20 premature births, of from 20 to 36 weeks' pregnancy, leaving 163 cases of full time.

Position of Child Presenting at Time of Labor.

Vertex presentation,	I.	130
" "	II.	34
" "	III.	3
" "	IV.	8
Breech presentations	(3 times I., 1 case IV.)	4
Foot "	(2 times III., 1 case I.)	3
Knees "	(IV. position)	1
Face "	(IV. position)	1
Transverse position, with prolapsed cord		1
Vertex position, high in large pelvis, because the brim of pelvis contracted		1

I am sorry that I did not always keep record of the time when the membranes ruptured. I marked it only in extraordinary cases; namely, in case of the 4 pounds' infant; membranes ruptured 8 days, that is 8 times 24 hours before labor; in the case just mentioned of contracted pelvis, rupture 47 hours before labor; in a case of completely adhered placenta, rupture 26 hours before labor.

Among the normal yet protracted cases of labor, there is a multipara, where the membranes ruptured 48 hours before there was a sign of labor. I find four others recorded, rupture at 15, 22, 22 and 25 hours before birth; the latter case was a primipara, labor lasted 6½ hours, during which she took eleven dollars' worth of sulphuric ether, yet recovered well, and was strong in four weeks. Several times I have noted down that membranes ruptured with the passing head of the child, and a number, rupture from 15 to 60 minutes before passage of head from vulva.

I have explained my use of term, "self-expulsion of placenta"; this occurred unassisted in 173 cases; in 10 cases a partially loosening placenta, requiring introducing of the hand and artificial removal on account of hæmorrhage; in three cases, there were completely adhered placenta requiring forcible removal, after waiting two hours or more; only one case of partial placenta prævia occurred. All these cases made a speedy and good recovery.

I may here add that most of the hæmorrhagic cases were among the miscarriages, that is less than 20 weeks time of pregnancy; but few occurred in normal labor.

The normal labors were 142; that is, in every respect, birth of child and delivery of placenta requiring no assistance.

Among the infants born, were four stillborn, so decomposed that the skin peeled off; two died from application of forceps, heads above brim of pelvis. Forceps were used in five other cases; in one, because of unyielding os coccyx, head of child having been on the perineum for nine hours; the whole labor was 36 hours. The recovery of all these patients took place within six weeks.

One case suffered from hæmorrhage from the beginning of labor until the placenta expelled itself.

There were three cases of convulsions, but all after delivery; in one, coming when the head was passing through the vulva, and continuing at intervals for four hours; in the second, beginning one hour after labor and lasting 36 hours; in the third, beginning 72 hours after labor, and lasting 24 hours, yet the patient retained her milk to nurse twins. All three cases recovered well within seven weeks.

One case of pregnancy of 32 weeks only; a multipara; there were irregular, spasmodic pains; child born with a large umbilical hernia. One case was rather formidable; primipara 34 weeks pregnant; 1 breech presentation; completely adhered placenta; hour-glass contraction of uterus, and hæmorrhage in consequence of this irregular contraction; catheter had to be used upwards of eight days.

Two cases are recorded where the contractions were perfectly painless, pressure alone indicating the approach of labor.

In one case labor was induced after 32 weeks' pregnancy, on account of contracted pelvis, craniotomy having been twice previously performed.

The majority of these 187 patients recovered health and strength within four weeks; a few within seven weeks, and three within three months, these latter having complications of inflamed breasts and hæmorrhoids.

One remarkable case was that of a patient whom I attended with typhoid fever when three months' pregnant; and when 34 weeks' pregnant, she had an attack of pneumonia which brought on labor, and a dead child was born. Patient recovered in six weeks.

Clinical Department.

A CASE OF ABDOMINAL NEPHRECTOMY FOR PYONEPHROSIS.

BY J. C. IRISH, M.D., LOWELL.

IN September, 1889, I saw, with Dr. Hodgdon of Peterboro, Mrs. T., of Dublin, N. H., who was suffering from an abdominal tumor. She gave the following history: Age fifty-nine. Menstruation ceased about ten years before. Had one child, now twenty-five years old. Soon after her confinement, her abdomen became very large. Several physicians, who examined her at this time decided that she had an ovarian cystoma, and advised its removal. Subsequently, however, the tumor suddenly disappeared, and the abdomen, in a few days, became reduced to its usual size. Ever after, Mrs. T. remained perfectly well, until in the past spring, she noticed a growth occupying the left side of the abdomen. When Dr. Hodgdon saw her in August, he found a tumor extending from the pelvis to the thoracic walls, and filling completely the left half of the abdominal cavity.

Its size at the time of my examination, a month later, had slightly increased. No fluctuation could be detected. Resonance was found over portions of the tumor, especially at the upper part. Still the growth could be distinctly felt beneath the overlying intestines. It was entirely immovable and its superior outline beneath the left thoracic wall could not be traced.

By vaginal examination the tumor could not be reached, nor could anything abnormal be found in the pelvis. Yet the history of a probable ruptured parovarian cyst, although it had remained quiescent twenty-four years, lent great probability to the belief, that the present growth took its origin from this old sac — possibly with an added element of malignancy. On the other hand the immovability of the tumor, especially beneath the anterior thorax and the intestines in front, strongly suggested an origin from the left kidney. The patient, we learned by inquiry, passed a very small amount of urine and had had attacks of renal colic. She had never passed a calculus nor had any irritation of the bladder. The urine contained no pus.

From all these facts, the conclusion was reached, that we had to deal, probably, with a tumor from the kidney. The possibility that this diagnosis might require a very radical revision did not escape our minds.

The patient's general health, during the past few weeks, had failed rapidly. She was confined to the bed a large portion of each day; was somewhat emaciated and anæmic; pulse 100; tongue red; vomited often, and unable to take only small quantities of food. Her general look and condition was that which is always seen in patients in whom degenerative changes of an abdominal tumor, notably an ovarian, are actively progressing.

September 21st, with assistance of Drs. Hodgdon, Cutter, Chase and Allen, I removed the tumor through a long abdominal incision in the median line. Intestines and omentum were extensively and closely adherent to the cyst, and were separated only with great difficulty. The sac contained seven quarts of pus. Its walls were about one-third of an inch in thickness, except over the anterior and lower portion, where they were thinned by a degeneration, that was indicated by a yellowish-white color of the surface and entire lack of blood supply. At this place rupture of the cyst would have soon occurred. The renal vessels, much dilated, together with the surrounding tissues, made a pedicle somewhat difficult to ligate, both on account of its size and position. A drainage-tube extending to the site of the kidney was inserted. Abdominal wound was closed in the usual manner. The patient went on through an uneventful convalescence to a complete recovery. The average amount of urine that she now passes daily is thirty-two ounces.

A microscopical examination of the cyst, by Dr. Whitney, demonstrated malpighian bodies and urinary tubules at various points within its walls, showing that it was formed of the dilated kidney. In short the case was one of pyonephrosis, due probably to obstruction of the ureter by a calculus.

In the way of an exact diagnosis, before the abdominal cavity was opened, were these difficulties: (1) the shape, size and position of the tumor, made it possible that it might have grown either from the left kidney or left ovary; (2) the past history of a ruptured parovarian cyst, and the present condition of the patient, strongly indicative of a degenerating ovarian cystoma; (3) the absence of any fluctuation that we

could detect, leading to the belief that the growth was solid, or nearly so; a very rare form of tumor in connection with the kidney, less so with the ovary. The failure to detect fluctuation was mainly due to tension of the cyst-walls, and partially to firm abdominal parieties and the consistency of the liquid. The same inability to elicit this sign I have seen, under like circumstances, in at least two cases of ovarian cyst.

Abdominal nephrectomy in this case, was the only operation that the uncertainties of diagnosis permitted. The result proves it to have been, also, the best that could have been chosen. Lumbar nephrectomy would have been impossible; and drainage of this immense pus-sac would have only relieved the patient for a time.

The walls of the cyst had so far degenerated, that a cure was only possible when they were, to a great extent, removed or expelled. Generally, in cases of pyonephrosis, where the tumor has become so large as to extend well down in the abdominal cavity, towards the pelvis, lumbar nephrectomy is always much more difficult than abdominal, and very often an impossible operation.

Therefore, in cases of the kind I have reported, the question of treatment will be between abdominal nephrectomy and the lumbar incision with drainage. The latter operation is a comparatively simple one, and its immediate death-rate very small. Yet, of the patients so treated, fully one-half die after varying periods of invalidism, from the continued suppuration that produces hectic and exhaustion, while many of the remainder have a constantly discharging fistula that never heals. After abdominal nephrectomy about one-half the patients recover and remain entirely well.

SOME MEASUREMENTS OF THE DAILY EXCRETION AND SPECIFIC GRAVITY OF THE URINE IN AN ADVANCED STAGE OF INTERSTITIAL NEPHRITIS.

BY EDWIN FARNHAM, M.D., CAMBRIDGE, MASS.

Every practising physician knows how difficult it is to get measurements of the urine for any length of time, and for that reason the following record may be of interest. All the measurements were made by the writer.

There had been frequent attacks of dyspepsia for several years, but no suspicions arose till on March 12, 1885, a slight "cold," was attended with hemiopia. The attack passed off in a couple of weeks, and in April an examination showed the following condition:

Urine: Amount in twenty-four hours, 1060 c.c.; Specific gravity, 1016; reaction, acid; numerous small and a few large hyaline casts; fine granular casts; a few epithelial casts, some with unchanged, and some with granular epithelium; amount of urea in twenty-four hours' urine, 21 grammes.

Eyes: Vision about one-half in either eye for distance, and only slightly improved by glasses. Considerable swelling and infiltration in both optic nerves, and retinæ.

Left ventricle hypertrophied, beats 60 times a minute, and powerfully.

Pulse, full and incompressible. From June, 1885, to June, 1886, the patient was in Europe, and reported his condition as good.

In September, 1886, after his return to this country there was an attack of right hemiplegia, accompanied by hemi-anæsthesia. There was amnesia of the ordinary form, loss of certain nouns. With only one interesting feature the case went on till November, 1887, when a second attack of cerebral hæmorrhage resulted in death in twenty-three hours without any recovery of consciousness. The anæsthesia, with the exception of the right cheek and right side of forehead, never showed any change. There was no sensation on the use of the ordinary tests, ice, heat, pricking with a pin, touching the hair on the limbs. On faradization with the wire brush, however, the patient said, "I feel it," and from his motions this seemed to be the truth. Daily use of this method for several months did not result in any improved response to the other methods of testing.

"The question arises whether we have any right to assume electricity as a test of absolute sensibility or the measure of its modifications. There are serious objections to such an assumption. As an organ of sense the skin must be studied in reference to appropriate excitants only. Now these are touch, pressure, heat, and cold, and the modifications of these which are capable of causing pain. The claims of electricity to a position among these appropriate excitants is open to exception."[1]

The case is incomplete owing to the inability to obtain a post-mortem examination.

The measurements of the urine extend, with a few exceptions, from February 5, 1887 to November 22, 1887, the day before the fatal attack. Of the 291 days from February 5th to November 22d, the measurements were made on 280. The omissions were due either to a change of the patient's residence, or to an oversight of one of the servants. The lowest specific gravity reached on any day was 1005, the highest 1018. The largest amount of urine excreted in any twenty-four hours was c.c. 2866, the smallest c.c. 684.

	Range of Specific Gravity.	Daily Average Amount c c.
1st week	1010 to 1013	1566
2d "	1009 to 1012	1492
3d "	1010 to 1015	1334
4th "	1009 to 1017	1264
5th "	1008 to 1011	1519
6th "	1008 to 1012	1409
7th "	1009 to 1011	1450
8th "	1010 to 1012	1400
9th "	1008 to 1013	1418
10th "	1008 to 1011	1463
11th "	1008 to 1013	1494
12th "	1007 to 1010	1649
13th "	1007 to 1015	1569
14th "	1006 to 1010	1845
15th "	1005 to 1007	1821
16th "	1006 to 1008	1907
17th "	1005 to 1007	1941
18th "	1006 to 1007	1882
19th "	1006 to 1010	1924
20th "	1008 to 1014	1927
21st "	1007 to 1010	1639
22d "	1005 to 1012	1647
23d "	1006 to 1008	1925
24th "	1006 to 1009	2090
25th "	1005 to 1009	1944
26th "	1005 to 1008	2103
27th "	1006 to 1009	1947
28th "	1008 to 1011	1802
29th "	1008 to 1010	1624
30th "	1008 to 1011	1803
31st "	1008 to 1012	1654
32d "	1009 to 1015	1571
33d "	1009 to 1014	1616
34th "	1009 to 1011	1621
35th "	1007 to 1014	1596
36th "	1009 to 1011	1773
37th "	1008 to 1010	1623
38th "	1009 to 1012	1521
39th "	1010 to 1018	1418
40th "	1009 to 1014	1605

[1] Erb, Electro-therapeutics, p. 155 (English translation).

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE. SECTION ON THEORY AND PRACTICE OF MEDICINE.

STATED Meeting, November 19, 1889. Dr. R. C. M. PAGE, Chairman.

DR. A. D. ROCKWELL read a paper on

THE GENERAL THERAPUTIC ACTION OF ELECTRICITY.

Notwithstanding the vast amount of literature relating to the treatment of disease by electricity, he said, there existed so little correct appreciation of the physics of this agent, that it was necessary to emphasize again and again the statement that electricity is not a simple, single manifestation of natural force, but a generic term including complex phenomena and a wide variety of effects. It was not only a stimulant of the most powerful character, but a sedative which in some cases was unexcelled. In addition it was to be regarded as a tonic of a very high order. To produce tension of the nervous system, and the muscular fibre generally, so as to enable them to respond to their natural stimuli, the mechanical effects of the faradic current seemed to be especially applicable. Properly applied, it would not produce any appreciable muscular contractions, and yet it gave passive exercise to all the deeper-lying as well as superficial muscles.

Aside from the purely mechanical effects, it was evident that even the faradic currents exerted some other and more subtle influence upon the nerves themselves; for by no purely mechanical means could we account for the numerous phenomena which followed its use in diseased conditions. General faradization might be said to be indicated whenever a constitutional tonic influence was called for; and this law rendered the remedy as valuable to the general practitioner as to the specialist. For the tedious period of convalescence often following typhoid and other fevers there was no remedy that was comparable to it, and in a large number of conditions of depressed vitality, electricity in some one of its forms would prove of service. In addition to giving passive exercise to the muscles, it rendered more natural the processes of secretion and excretion, corrected circulatory disturbances, and afforded tone and strength to both nerve and muscle.

With these general principles in view, we ceased to wonder that electricity is used and recommended for such a variety of diseases, and appreciated the injustice of the criticism which condemns electricity because it is claimed to be of service in so many different conditions. When its therapeutical efficiency was denied, the inevitable conclusion at which those must arrive who have time and time again witnessed evidences of its power was, that he who thus fails in his results is deficient in experience, is not sufficiently persistent, or has somehow failed in the technique of his applications.

Some of the results in electro-therapeutics were probably due — though only to a limited extent — to physical effects. The chemical or electrolytic influences which were associated with electrical action were practically confined to that form of dynamic electricity termed galvanism. Its special utility was in the department of electro-surgery; although it was undoubtedly true that some of the electrolytic action occurs in all ordinary applications of galvanism to the body. A distinction had very justly been made between electrolysis, which was a disintegration and separation of elements of organized structure, and galvano-chemical cauterization, which produced its effects by means of the acids and alkalies which are liberated at either pole by electrolytic action. It was the chemical galvano-cauterization, and not electrolysis, which accomplished most of the good results that followed intra-uterine applications in endometritis.

In its influence over nutrition, however, the physiological effects of electricity were perhaps the most important. Having referred to the increase of the salivary and mucous secretions caused by its excellent effects in so called dry catarrh, by reason of its stimulation of the latter secretion, he said that his experience had been that appetite is sharpened, digestion quickened, and constipation relieved, both by local and general electrical treatment, so rapidly as to make it pretty evident that the gastric, biliary and intestinal fluids are made to secrete more liberally by the action of the current on the nerves supplying the organs of digestion, rather than on the tissues of the organs themselves. These results had also been confirmed by Ziemssen by some recent experiments on animals. Among those affections of the bowels in which electricity was quite certain to exercise a beneficial influence were defective innervation, atrophy of the muscular tissue, digestive atony, and the wide section of diseases comprehended under the name of hypochondriacal and neurasthenic.

Electricity might also not only diminish, but arrest the physiological activity of the organs of secretion and excretion. This might be of service in diminishing the flow of urine in polyuria, for instance; but in other instances the effect produced was not at all a desirable one. Thus he had known two cases in which the lacteal secretion was promptly suppressed by the injudicious use of currents of high tension. Properly applied, however, electricity often had a very beneficial effect in increasing the flow of milk or in restoring the secretion after it had been temporarily suppressed. The paper was concluded with some observations on the effect of electricity on the circulation and the process of absorption.

DR. C. L. DANA read a short paper which was devoted to the

EFFECTS AND ADVANTAGES OF STATIC ELECTRICITY.

By using small Leyden jars which filled and discharged very quickly, the static current, he said, could be made almost continuous, and would cause chemical effects. The intensity of current strength was the amount of electricity passing through a given space in a second of time. The static discharge occupied such a fraction of a second that its intensity or current strength was hardly measurable; but its voltage or electric-motor force was immense.

In speaking of the physiological effects of static electricity he said that the muscular contractions caused by it had been stated to be due to a purely mechanical effect. This view he thought was erroneous, for the reason the sparks caused contraction, when applied directly to muscle, while in order that mechanical irritation should cause contraction of a whole muscle it was necessary that it should be applied at the motor point. Also, because there was no apparent mechanical irritation in the ordinary sense, when the static current was applied with wet electrodes.

In the case of the spark there was a sudden expansion of the skin at the point of contact from heat, but no deep mechanical disturbances.

Therapeutically, its special advantage was in paralyses with some spastic element, as in hemiplegias and paraplegias. Aside from this, its best results were in chronic muscular rheumatic and neuralgic conditions and in many sensory disorders. It had a specific æsthesiogenetic influence in certain cases, producing effects in a way similar to metallo-therapy — not of mental influence or suggestion. It had practically a very great value in dispensary clinics where a considerable number of cases of paralysis had to be treated. In nervous clinics with few patients and abundant medical attendance the faradic and galvanic battery might suffice; but in large dispensaries he considered it almost a duty to patients to have a battery which insured a prompt and efficient electrical treatment in all cases.

DR. J. H. GUNNING spoke particularly of the good effects of static electricity in facial paralysis, in which he had found that a much shorter period of treatment was required than when other forms of electricity were employed, and of the special value of the faradic current as an emmenagogue and as a remedy for many cases of obstinate vomiting.

DR. H. D. CHAPIN read a paper on

(I.) THE AURICULO-VENTRICULAR (PRESYSTOLIC) SOUND. (II.) SOME CONSIDERATIONS ON CARDIAC DISEASE IN CHILDREN.

In the course of it he said, that in some cases the presystolic murmur could only be detected after more or less active exercise, and in making his examinations he was in the habit, therefore, of requiring the patient to jump up and down a few times before he auscultated the heart. The utility of this precaution was shown by the fact that two individuals, in whom he had found the murmur present, had been able to secure first-class risks in life insurance companies, because (the applicant not having taken any exercise) the murmur was imperceptible at the time the examination was made by the medical officer. The prognosis in presystolic murmur he regarded as usually quite favorable.

In treating of cardiac disease in children, he spoke of the well-known fact that rheumatism, which was ordinarily the cause of such disease, was apt to be very much less severe in children than in adults; the affection not infrequently entirely escaping notice. In his experience, he had found that very often cardiac trouble did not occur with the first attack of rheumatism, and sometimes did not ensue until the child had had several attacks of the latter. He also spoke of the much greater tolerance of disease of the heart in children than in adults. In the treatment of such disease he laid stress on the prime importance of complete rest, and said that the earlier the trouble was detected, the better the chances naturally were of overcoming it.

The paper was discussed by Drs. ANDREW H. SMITH, W. H. KATZENBACH, A. L. LOOMIS, H. N. HEINEMANN, E. G. JANEWAY, J. LEWIS SMITH, and W. H. THOMSON.

DR. ANDREW H. SMITH said that he was not one of those who believe in the existence of a presystolic murmur as distinct from the diastolic, and having a mode of production and a significance of its own. There was a presystolic murmur, indeed, but it was only a continuation of the diastolic murmur, reinforced by the contraction of the auricle. If the orifice was greatly narrowed, and especially if it was irregular, the flow of blood through it would cause a sound during the ventricular diastole and before the auricular systole. If, on the other hand, the orifice was less contracted and less irregular, the blood would pass through it silently until its flow was hurried by the contraction of the auricle, when a murmur would be developed. This supplement to the diastolic murmur had no different significance from the latter, and he could see no reason for giving it a specific name.

Having spoken of a murmur which precedes the first sound of the heart, which he believed to be systolic, and not presystolic, and which occurs in those conditions in which, from some general cause, the heart murmur is enfeebled and the ventricle becomes temporarily dilated, he went on to say that his experience coincided with that of Dr. Chapin, as regards the tolerance of cardiac disease in early life. He had some children with severe endocarditis, accompanied by very marked valvular lesions, go on for years apparently suffering but little inconvenience. He recalled especially the case of a boy, who, eight years ago, when three and one-half years of age, had a systolic murmur so loud that it could be heard distinctly when the ear was two or three inches from the chest, and who had all along run and played with other boys, apparently in perfect health. This murmur still existed; but it was greatly reduced in intensity, and the unfavorable prognosis, which he had given eight years ago, seemed as far as ever from being verified.

DR. LOOMIS said that he did not suppose there was any doubt in the minds of auscultators at the present day as to the existence of a presystolic murmur. He had been accustomed to consider three classes of presystolic murmurs: (1) the hæmic, (2) the congenital, and (3) those depending on chronic endocarditis. These murmurs were often independent of systolic murmurs, and sometimes were present in addition to the latter. It seemed to him that while we were in the habit of talking a great deal about cardiac murmurs, they were not really the essential element to be considered. To be of importance they must be accompanied by changes in the cavities and walls of the heart and in other parts of the system; and this was especially true in regard to mitral disease. As far as his experience went, mitral disease was the variety commonly met with in children (aortic trouble being extremely rare in early life), and he had found that a child having this affection (provided, as was usually the case, that suitable compensation was furnished by nature) might go on to adult life without suffering any inconvenience.

DR. JANEWAY said that for a long time some authorities had hesitated to accept the existence of the presystolic murmur, on the ground that the auricle has not sufficient force to produce such a murmur. It could be positively demonstrated, however, that in reality very little force is required for this purpose. As regards the prognosis of mitral stenosis, his experience had led him to take a less hopeful view of the condition than had been expressed by the author of the paper and some of those participating in the discussion. He had found that quite a number of the cases died, and sometimes comparatively suddenly.

DR. J. LEWIS SMITH said that his experience coincided with that of others as to the comparative mild-

ness of rheumatism in children, and he thought there could be no doubt that there were a great many "walking cases" of the disease. Parents would state that their children had not complained of pain, or, if they did so, the circumstance was attributed to "growing pains," and regarded as a matter for congratulation, as indicating an increasing robustness of constitution. So far from this being the case, however, such "growing pains" were too often the evidence of a condition which caused irreparable damage to the heart. The occurrence of rheumatism was thus frequently overlooked, and hence the opportunity was missed for the employment of treatment which might avert the impending danger of permanent cardiac disease.

In speaking of the differential diagnosis between malformations of the heart and true cardiac disease, he said that in two hundred cases of the former, which he had collected from various sources, he had found no record of congenital mitral stenosis, of which Dr. Loomis had spoken. It seemed probable to him, therefore, that in cases which appeared to be of this character, the trouble was really due to malformation of the right side of the heart. In seventy-five cases of organic cardiac disease in children, occurring in his service at the out-door department of Bellevue Hospital, the most frequent murmur met with was the mitral regurgitant, and the next most common, the presystolic; while the aortic murmurs were very rare. As to the matter of prognosis, it was his conviction that we are in the habit of regarding in too favorable a light these valvular lesions in childhood. In dispensary practice most of the cases were lost sight of in a comparatively short time; but in private practice, he had found that in many cases dilatation and hypertrophy became developed in the course of two or three years, and subsequently the cardiac trouble terminated fatally.

DR. THOMSON said that it seemed to him strongly probable that the disappearance of presystolic murmurs, which had been well marked in early life, was in reality due to the supervention of other conditions. On account of the healthy condition of the arteries, children had a great advantage over older persons; but the moment that arterial changes occurred, a direct effect was produced upon the heart, and the result was hypertrophy and dilatation of the left ventricle. Dilatation and regurgitation through the mitral orifice took the place of mitral stenosis, as far as the murmur was concerned; and hence it could be seen how such a murmur would disappear by reason of subsequent changes, the starting point of which was arterial obstruction.

— In a circular which accompanies one of the Navy reorganization bills prepared for presentation to Congress at the present session, its author has this to say of the medical officers: "There is no reason why the medical officer should begin his naval career with the same rank as the line officer. No other service demands it; the army does not require it. In the English service the medical officer enters with the title of surgeon and the rank of lieutenant — two grades higher than the one in which medical officers now enter the United States Navy — and gets more pay than the line officer of the same rank. In the United States Army the medical officer enters with the rank of first lieutenant mounted, two grades higher in pay than the ensign."

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FIRST REPORT OF THE BRITISH ROYAL COMMISSION UPON VACCINATION.

THE Commission appointed in May, 1889, a portion of whose report is presented in the document recently published, consists of fifteen persons. In the list may be recognized the well-known names of Sir James Paget, Sir Wm. G. Hunter, William S. Savory, F. R. C. S., Dr. John S. Bristowe, Dr. Wm. J. Collins, Prof. Michael Foster, Jonathan Hutchinson, F. R. C. S., and Charles Bradlaugh, Esq. The Commission was composed of gentlemen holding adverse views upon the subjects of vaccination and of compulsory vaccination.

The objects of the inquiry are set forth as follows:

(1) The effect of vaccination in reducing the prevalence of and mortality from small-pox.

(2) What means, other than vaccination, can be used for diminishing the prevalence of small-pox; and how far such means could be relied on in place of vaccination.

(3) The objections made to vaccination on the ground of injurious effects alleged to result therefrom, and the nature and extent of any injurious effects which do, in fact, so result.

(4) Whether any, and if so, what means should be adopted for preventing or lessening the ill effects, if any, resulting from vaccination; and whether, and if so, by what means vaccination with animal vaccine should be further facilitated as a part of public vaccination.

(5) Whether any alterations should be made in the arrangements and proceedings for securing the performance of vaccination, and, in particular, in the provisions of the Vaccination Acts with respect to prosecutions for non-compliance with the law.

The Commission held meetings weekly, from June 26th to July 31st, inclusive, and then adjourned until October 9th. The testimony of only four persons is presented in this first report, — Sir John Simon, K. C. B.; Dr. William Ogle, Superintendent of Statistics

in the Registrar-General's Office; Dr. Richard Thorne Thorne, of the Local Government Board; and Dr. John H. Rauch, Secretary of the State Board of Health of Illinois. This first instalment of the report, which promises to be a lengthy one, deals mainly with the historical and statistical side of the question.

The Commission of 1871, was convened during the prevalence of the great epidemic of that and the following years. Mr. Simon had already testified before the former Commission, and a large share of his testimony before the present Commission is occupied with historical statements. In continuance of the statistics as to the death-rate from small-pox in England, it appears that the mortality from this disease for the earlier period, 1847–53, in which vaccination was *optional*, was, for all ages, 305 per million of the living population; and for children under five years of age, 1,617 per million living at that age. For the period 1854–71, in which it was *obligatory, but not efficiently enforced*, the death-rate from small-pox was 223 per million of the living population, at all ages; and 817 per million for children under five years. For the period 1872–87, in which vaccination was *obligatory and more efficiently enforced*, the death-rate from small-pox was 114 per million, at all ages; and 242 per million for children under five years. The witness also testified that there had been a very great improvement in the *quality* of vaccination within thirty years. He gave credit to the superior quality of the recent vaccinations practised in Germany, especially in the German army.

The term "spontaneous cow-pox," which was generally recognized as a correct expression on both sides of the Atlantic not many years since, Mr. Simon summarily and very justly disposes of as follows:

Dr. Bristowe. — "Is there any foundation for the belief that there is such a thing as spontaneous cow-pox?"

Answer. — "There may be speculative ground for it; but, as to matter of fact, I have never known of spontaneous cow-pox, any more than of spontaneous cat or dog."

The witness, after a life-long experience, was induced to modify his views to some degree as to the duration of the effect of vaccination as a preventive of small-pox. Mr. Simon's testimony is supplemented by a voluminous appendix, comprising the same data, mainly historical, which were presented in the report of the former Commission.

Dr. William Ogle, the second witness, the successor of Dr. Farr, the noted statistician, showed from the Registrar-General's Reports, the evidence of the general decline in small-pox under the successive enactments relative to vaccination, and also the marked changes which have taken place in the incidence of the disease upon different age-periods of life. These changes consisted in a very marked diminution of the mortality of young children as compared with the period before vaccination, and a slight increase in the mortality among adults; the explanation of which was that in former times a very large proportion of the population had small-pox while they were young, and were thereby protected throughout life, but that since the introduction of vaccination the protection enjoyed is only that of primary vaccination, the effect of which wears out sooner than that of an attack of small-pox. Consequently the death-rates are increased in the advanced ages because protection by vaccination has taken the place of protection by small-pox. He laid special stress on the fact that while the mortality from other diseases had been diminished since the introduction of vaccination, this decrease has been quite insignificant as compared with that of small-pox.

The testimony of Dr. Thorne Thorne was remarkably clear and convincing, and included many important points. He detailed minutely the effect of vaccination upon the small-pox fatality by ages, a point briefly noticed by the preceding witness. He also testified as to the effect of the quality of vaccination upon the small-pox mortality. He quoted the experience of the Local Government Board, and especially Dr. Barry's recent report upon the Sheffield epidemic, in support of Marson's statement as to the increased protection afforded by good vaccination over indifferent or bad vaccination. Upon being questioned quite closely as to the effect of sanitation, in the broad sense, upon small-pox, he replied that different diseases have different causes, different modes of transmission and different methods of prevention, and that while overcrowding might undoubtedly increase the liability to an epidemic of small-pox, "when you come to general insanitary conditions such as faulty drainage or water-supply, I confess I have no knowledge that such conditions have ever produced a single case of small-pox since small-pox has been in existence." He agreed entirely with Dr. Seaton in the statement that the influence of general sanitation is "wholly insignificant as compared with that of the presence or absence of effective vaccination in controlling small-pox mortality, especially among young children."

Dr. Collins, who appears to take the lead upon the Commission, as an opponent of vaccination, plied his inquiries very sharply, but was met very fairly and very successfully at all points by Dr. Thorne Thorne. The evidence of these two witnesses is supplemented by abundant statistical data, from which the following is selected as presenting a most convincing argument as to the effect of vaccination upon the small-pox mortality of the early ages of life. (See Table, page 566.)

Dr. John H. Rauch, Secretary of the State Board of Health of Illinois, was the last witness examined. He testified as to his experience with small-pox as an army surgeon in the war of 1861–65, as a sanitary officer at the time of the great Chicago fire in 1871, and as the executive officer of the State Board of Health. The vaccinations performed under his direction in 1882 and 1883 as detailed in the Fifth Report of the Illinois Board of Health were the most numerous ever made under the direction of any State authority in this country. He stated the number vaccinated in

the public schools of Illinois in these two years as about 600,000, and about 50,000 in the parochial schools; and his estimate of all vaccinations and revaccinations in the State at the same time was about one and a half millions.

MEAN ANNUAL DEATHS FROM SMALL-POX,

At Successive Life-Periods, per Million living at each such Life-Period, 1847–53, 1854–71, 1872–87.

Period.	All ages.	0–5	5–10	10–15	15–25	25–45	45 and upwards.
(1) Vaccination optional, 1847–53 . . .	305	1617	337	94	109	66	22
(2) Vaccination obligatory, but not efficiently enforced, 1854–71	223	817	243	88	163	131	52
(3) Vaccination obligatory, but more efficiently enforced by vaccination officers, 1872–87 . .	114	242	120	69	122	107	47

In reply to a question by Dr. Collins as to certain statements made by Dr. Joseph Jones, relative to the transmission of syphilis by vaccination, from one soldier to others in the Confederate army, Dr. Rauch replied: "I have not the least doubt of it. Nothing of that kind occurred with us; we took better care of our army." He further testified that among 250,000 people whose vaccination had come under his personal supervision, he had never known a case of syphilis as the result of such vaccination.

Dr. Rauch's testimony extended to some of the points not embraced by the preceding witnesses, in consequence of his limited stay in England. It is to be hoped that the impression may not be made by his evidence, that vaccination in America is as thoroughly performed in all of the States, as it was under Dr. Rauch's supervision in Illinois in 1882–83. A general epidemic of small-pox at the present time would undoubtedly find an immense unvaccinated contingent in this country.

THE BOSTON CONFERENCE ON PHYSICAL CULTURE.

THE conference of educators and physicians held in Boston last week upon the subject of the best methods of carrying on physical education in connection with the public schools and the colleges, was, at least so far as the spirit and interest manifested, a great success. That a large hall, holding a thousand or more people, should be filled morning and afternoon for two successive days indicates a growth of public interest in this subject, which is most gratifying, in view of the general apathy with which appeals for the need of physical culture have been met in years past. That a part of the present interest was, perhaps, due to the conflict of rival systems, contesting for favor before the school authorities, does not derogate materially from the satisfactoriness of the occasion. For even if the innate liking for a fight were the immediate cause which brought some of the auditors together it matters little, so that they came to see that it was something important that the contestants were fighting about. And we cannot suppose that any pugnacious feelings had a place in the breasts of most of those in attendance, for were not a majority of the audiences of the gentle sex?

The conference was understood to be under the auspices of a benevolent lady, who has taken much interest in the subject and has expended liberally of her means to secure instruction in it for the public school-teachers, and, while she is a distinct favorer of the Ling or Swedish system, a fair field was offered to all who had other methods to advance. The German Turners presented and illustrated their system; the so-called American system was presented by a class under the direction of one of the Boston gymnasiums; the military drill was given a hearing; the Swedish system was explained by Dr. Nils Posse, and a class of female teachers demonstrated the movements. The directors of a number of the college gymnasiums also gave an account of their work: Dr. Hartwell of Johns Hopkins, Dr. Sargent of Harvard, Dr. Seaver of Yale and Dr. Hitchcock of Amherst.

Professor Wm. T. Harris, United States Commissioner of Education presided ably over the discussions, and at the close a pleasant reception was given to the gentlemen and ladies who were the guests of the occasion.

Without entering at all upon the controversies which are in the air as to methods, we may say that to our minds the choice of any particular system is of much less importance than that *some* plan should be adopted, under competent supervision of a person who believes in it and can handle it. In such hands any one of the opposing systems can doubtless do good, some undoubtedly more than others. But that the necessity of doing something is beginning to be felt, we hopefully believe. An excellent committee was appointed at the close of the conference, the only objection to which is its size, to consider carefully the methods which have been or may be presented, to report upon them, and to make suggestions as to the method of physical training best adapted for introduction into the public schools.

In regard to colleges, we believe that a department of physical education should be given a place and a voice in the regular curriculum, even if not put upon a footing of recognized equality with other departments. Such a place, such a department, has already been given at the Johns Hopkins University; and Amherst is understood to be favorably impressed with the plan. The mature, well-balanced adult of the future will probably look back with as much satisfaction to the time devoted to this department of school and college work, if having had the good fortune to be under judicious direction, as to that spent in any or all others.

In this connection, by the way, we note with pleasure that a professorship of hygiene and physical culture has just been endowed at the Pennsylvania College, at

Gettysburg, with the sum of $25,000, in memory of Dr. Charles H. Graff, by his parents. A similar memorial in other schools and colleges, at present unprovided for in this regard, would be a most admirable way of honoring the dead while serving the living.

MEDICAL NOTES.

— Dr. Pettit, of Dayton, Ohio, reported in the *Medical News*, for August 10th, a death from the use of two doses of sulphonal of fifteen grains each, taken at an interval of fifteen minutes. The mode of death was by apnœa; the patient, a woman with melancholia, aged twenty-eight years.

— Dr. William Perry Northrup, of New York, the author of an interesting article on "Life on New York Pilot-Boats," has contributed to the holiday number of *Scribner's Magazine* a profusely illustrated paper on "Life on the Coast of Brittany," which will be found to be of great interest.

— Dr. H. C. Coe, of New York, recently reported to the Section of Obstetrics of the New York Academy of Medicine, a successful case of laparotomy and supravaginal amputation of the uterus for rupture — the first successful case of the kind, we believe, in the United States.

— Dr. John S. Billings has, with the approval of the Secretary of War and of the Surgeon-General, accepted the position of Medical Director of the University Hospital in Philadelphia to which he was recently elected. The duties of this new position will be so arranged as not to conflict or interfere with his duties as medical officer of the army at the Surgeon-General's office.

— A long-cherished plan of a training-school in New York for nurses for children has assumed definite shape, and such a school is expected to be in operation by January 1st. Quarters have been taken in the Nursery and Child's Hospital at No. 571 Lexington Avenue. A regular six months' course of training in the care of children is to be adopted. This will include instruction in matters of hygiene, such as the care of the nursery, ventilation, preparation and administration of food, dressing and washing children. A post-graduate course will provide instruction in some of the simpler methods of medical treatment of children.

— From a summary of the recent census of Greece, as contained in the *Lancet*, we learn that in one respect the Greek population stands out in strong contrast to that of almost every other European country, inasmuch as the number of males exceeds that of females. At the recent Greek census, the proportion of males was 107.6 to 100 of females. It is well known that the females considerably exceed the males in almost every other European country. At the last English census, in 1881, the sex proportion was 105.5 females to 100 males. This excess of males in the Greek population is not susceptible of satisfactory explanation without more complete vital statistics than are issued by that country. There is little reason to doubt that males are more numerous than females at birth, and the proportion of emigrants and of colonists, who leave the shores of Greece, is probably comparatively small, which tends to prevent the excess of females thus caused in most other European countries. It would, however, be very interesting to know whether the excess of males in Greece is in any degree due to exceptional sex-mortality. Excess of mortality among males, compared with that of females, is almost invariable. If the mortality of females in Greece exceeds or is equal to that of males, such an unusual fact would help to explain the excess of males in the population.

— Surgeon-General Hamilton, of the Marine Hospital Service, has submitted to the Pan-American Congress a paper on the sanitation of ships and quarantine. Among other recommendations is one that certain international refuge quarantines shall be established and maintained as near as practicable to the definite routes of travel, and be completely equipped. To these stations all infected vessels should be obliged to repair before final entry into the country of destination. The certificate of disinfection and cleanliness, from the officer in command of such station, should entitle the vessel to enter in free *pratique;* and all port sanitary authorities should have the right to send any suspected vessel to the nearest international refuge station. Dr. Hamilton suggests that the following refuge stations would, for the present, supply the needs of this proposed service: On the coast of the United States, one at Tortugas Keys, one at the Chandeleur Islands; on the coast of Mexico, one near Vera Cruz; on the Central American coast, one near Colon; on the Caribbean coast, one near La Guayra; for the Antilles, one near Port au Prince; for the Brazilian coast, one near the mouth of the Amazon (near Para); for Uruguay and the Argentine Confederation, one at the mouth of the Rio de la Plata; for the Chilian coast, one near Valparaiso; for Peruvian coast, one near Callao; for United States of Colombia, one near Panama; for the Western coast of Mexico, one near Acapulco; and for the Western coast of the United States, one at San Diego, one at San Francisco, and one near Port Townsend.

BOSTON AND NEW ENGLAND.

— Among the estimates of appropriations submitted to the new Congress is one asking $31,000 for repairs and improvements to buildings and grounds at the Chelsea Marine Hospital, and one asking $15,000 for the Marine Hospital at Vineyard Haven, Ct.

— The annual graduation exercises of the Dartmouth Medical College occurred November 26th, at Hanover, N. H. Members of the faculty and delegates from the New Hampshire and Vermont Medical Societies occupied seats on the stage. The degree of M.D., was conferred by Prof. C. P. Frost, Dean of the Faculty, upon twenty-one students.

— A case of some importance was heard in the Municipal Court, of Boston, December 2d, in which Dr. S. H. Durgin, Chairman of the City Board of Health, was prosecutor. The defendant was Dr. Benjamin Galbenewitz, who has an office on Hanover Street, and he was charged with failing to report promptly, as by law required, the case of a patient whom he was called upon to treat for the small-pox. The Board of Health was not apprized of the case till November 20th, the notice having been mailed the 19th. It was claimed by the prosecution that the eruption must have been present and recognizable as small-pox for a week previous to the time of notification. The patient was a child of six months, and the household consisted of the father, mother and five children. They lived in narrow and contracted quarters in a small tenement in the rear of Salem Street. For the most part all were huddled in the kitchen, which was the general living-room in a crowded neighborhood, a place, in fact, where the general conditions were favorable for the spread of the disease. The mother of the patient was brought from the Canterbury Street Hospital to testify, and appeared somewhat weak and emaciated. She told of rash and pimples which were visible on the body of her little daughter about a week before she died. She had a notion that it might be chicken-pox, as another of her children had only recently recovered from that disease. The doctor had made three or four visits. The defendant, Dr. Galbenewitz, stated that he did not become convinced of the identity of the infant's complaint with small-pox until the afternoon of the day on which he mailed his notice to the Board of Health. He had been for fifteen years a physician in this country, and had practised also in Russia. The hearing closed at 4.30 P. M., when Judge Hardy imposed a fine of $100 and costs, from which sentence the accused appealed.

NEW YORK.

—There was an interesting discussion before the Section of Laryngology and Rhinology of the New York Academy of Medicine, November 26th, concerning the misuses of cocaine. Dr. W. H. Holbrook Curtis read the introductory paper which dealt with a large number of cases where the use of cocaine in a local way had affected the entire system of the patient. The fact that Dr. Köhler, the discoverer of the drug, was present at the discussion and took part in it, lent an additional interest to the meeting. Dr. Köhler said that he made it a rule of his practice never to prescribe cocaine. "Whenever I use it," he continued, "I administer it myself, and then the patient cannot secure more of it by merely refilling the prescription. I make it a rule never to use much more than a five per cent. solution because I find the results achieved quite as good as though I had used a forty per cent. solution — it only requires a little more time. In subcutaneous injections a much weaker solution should be used, two per cent. being quite effective."

— At the last meeting of the Section in Obstetrics and Gynecology of the Academy, an unusually interesting discussion took place on the use of electricity in gynecology and especially in the treatment of fibroid tumors. Papers were read by Drs. A. D. Rockwell, A. H. Goelet, and E. L. H. McGinnis, of New York; A. Lapthorn Smith, of Montreal; A. H. Buckmaster, of Brooklyn; F. H. Martin, of Chicago; and G. Betton Massey, of Philadelphia; and remarks were also made by Dr. P. F. Mundé, Dr. H. J. Boldt, and others. Two of the gentlemen reading papers — Drs. Goelet and McGinnis — spent some time in Paris during the past summer in personally studying Apostoli's methods.

— There are at present nine cases of typhoid fever in St. Peter's Orphan Asylum, Newark, an institution in which there are only seventy inmates altogether; and one death from the disease has already been reported. It is announced that arrangements have been made to remove the sick children to the German Hospital.

— Dr. Walter DeForest Day, for many years Sanitary Superintendent, New York Board of Health, died after an illness of some months, on the 27th of December. He was born in Catskill, New York, in 1835, and was graduated from Williams College in 1859. He studied medicine under the late Dr. Willard Parker and received the degree of M.D. from the College of Physicians and Surgeons, New York, in 1863. Two years earlier, however, he entered the military service of the United States as a Medical Cadet. He was with the Army at the battle of Bull Run, and immediately after the latter converted the Methodist Church in Alexandria, Va., into a hospital for the wounded. His services were so efficient at this time that he was assigned the task of organizing the hospital service of the Army of the Potomac, and it was owing to the ability that he displayed in this work that Prof. Charles F. Chandler, when made President of of the New York Board of Health in 1873, selected Dr. Day for the position of Sanitary Superintendent. This place he filled in an eminently satisfactory way until last spring, when he resigned on account of ill health. In addition, he was for twenty-one years Professor of Materia Medica and Botany in the New York College of Pharmacy, and for ten years clinical assistant to the chair of Practice in the College of Physicians and Surgeons.

Miscellany.

GASTRIC EPILEPSY.

THE *London Medical Recorder* quotes from *Lo Sperimentale*, two cases by Massolongo, of epilepsy with peculiar attending features. In neither patient had any of the customary antecedents existed, both suffered from epileptic attacks supervening after gastric disturbances, characterized by vomiting of food and obstinate constipation. After treatment of the dyspeptic symptoms, the patients completely recovered. Massolongo, after recalling the cases described by Pommay and by Lepine and Schultz, cannot accept

the explanation of the first, that these epileptic attacks are due to irritation of the pneumogastric; nor can he accept the hypothesis of Lepine, who believes the epilepsy in his cases of dyscrasic origin. Like Pommay, he thinks the cause resides in the stomach, but the attacks are not due to peripheral irritation of the pneumogastric, but to the absorption of anomalous products of stomach decomposition, which in dyspeptics are elaborated in great quantity. We have to do, then, not with a reflex, but with a toxic epilepsy. The favorable results obtained by removing with antiseptics these anomalous products support this hypothesis of the pathogenesis of nerveus phenomena so frequent in dyspeptics.

TETANUS IN CALCUTTA.

Dr. O'Brien, formerly Health-Officer of Calcutta in an address recently delivered (*Indian Medical Gazette*, August, 1889) thus speaks upon the surprising prevalence of tetanus in that city:

"During the past ten years close on 12,000 deaths occurred from this terrible disease. It begins to rival cholera in the mortality which it produces, and it shows a tendency to increase. In the first year of the ten, namely, 1879, the deaths from it were 936, in 1888 they were 1,324. Recent discoveries go to show that this disease is of microbic origin, that it is produced by a micro-organism existing in the air or soil, or both. Another fact ascertained is that it is enormously prevalent among horses in Calcutta. There is a large equine population here — 20,000, 30,000 — I cannot say how many. A still further fact that has come to notice with regard to this disease is that it shows a remarkable tendency to appear in the vicinity of tanks that have been filled with refuse. Here are a series of facts all pointing to a connection between the existence of this disease and city refuse, stable refuse, and such like. It prevails with most intensity in the autumn months — August, September, October. I believe it is a fact that easterly breezes prevail to a larger extent at this season than at other times of the year, so it is not far-fetched to suppose that germs from the Salt Lakes may be the cause of its greater prevalence then. In this city more deaths occur in a single year from tetanus than in the whole of England in a similar time, or in the whole of Scotland in ten years."

THE BACILLUS OF TETANUS.

The United States Marine Hospital Service issues in its bulletin for November 29th a translation from a paper by Dr. S. Kitosato, as contained in the *Zeitschrift für Hygiene*, November 7, 1889, on the bacillus of this disease, of which article the following are the conclusions:

(1) Tetanus is an infectious disease caused by a specific bacillus.

(2) The exciting cause of tetanus occurring in man, and of tetanus, when inoculated, is some bacillus which is identical with the "anærobic" bacillus first described by Nicolaier, and later confirmed by Rosenbach and others.

(3) This bacillus appears both in the wound-pus of tetanic persons and of inoculated animals. It frequently produces spores in the pus, but if the pus is examined early it may often be seen as a small rod free from spores.

(4) Pure cultures of these bacilli can be made from the pus of tetanic patients or animals, and inoculations from these cultures will produce tetanic symptoms in other animals.

(5) The former statements, apparently contradictory, concerning the etiology of tetanus, and particularly regarding the appearance of the bacteria, are made clear by the fact that the investigations were made at different stages of the disease. The sooner patients or animals die the less likely are spores to be found in the pus. But the bacilli themselves are never wanting, and spore-forming tetanus bacilli can always be artificially cultured from tetanic pus that is free from spores.

THE SUBCUTANEOUS USE OF ANTIPYRIN.

In the *Therapeutic Gazette*, November 15, 1889, we find a *résumé* of a graduating thesis by Dr. L. Bach (Würtzburg, 1889), dealing with the above subject.

Dr. Bach made two hundred and seven injections of antipyrin in one hundred different cases of various diseases, principally of a neuralgic character, calling for a remedy which would relieve pain.

Of these cases, there were cured twenty cases of muscular pain, nineteen cases of neuralgia, and eighteen cases of articular pain, making in all forty-seven. Fourteen cases of muscular pain, ten cases of neuralgia, and two cases of pain in the articulations, making in all twenty-six, are stated to have received temporary relief. No result whatever was noted in eleven cases of muscular pain, four of neuralgia, and one of articular pain. These cases may be again subdivided into the following groups: Nine cases of sciatica were cured, one case unaffected; five cases of lumbago were cured, one was uninfluenced; two cases of hemicrania were cured, three obtained temporary relief; three cases of trigeminal neuralgia were cured, three obtained temporary relief, and one was uninfluenced; seven cases of articular rheumatism were cured, two obtained temporary relief, and one was unaffected. The author further states that in twenty-six cases the patients complained that the injection was extremely painful, in thirty-two cases they stated that there was slight pain produced, and forty-two cases testified to entire freedom from pain. Finally, the author classifies his conclusions as follows:

(1) Subcutaneous injections of antipyrin, as regards the production of local pain, is of the most varied action, the result evidently depending upon the individual disposition of the patient.

(2) No difference between the first and subsequent injections can be made out.

(3) Whenever possible, the injection should be made into the tissue of the muscles, since in this locality it is, at any rate, no more painful than in the subcutaneous tissue, and infiltration is avoided.

(4) Previous injections of cocaine are to be recommended.

(5) As recommended by Liebreich at the last Wiesbaden Congress, the injection should be made as near as possible to the seat of pain. An apparent exception to this rule is found in the fact that in hemicrania and orbitual neuralgia relief will frequently follow with astonishing rapidity the use of injections into the deltoid muscle.

(6) There is no probability of antipyrin ever being regarded as a substitute for morphine.

(7) Injections of antipyrin arrest pain in hemicrania and in muscular pain, especially in lumbago and neuralgia of the sciatic and trigeminal nerves. In most cases the relief is permanent; in others it lasts from six to eight hours.

(8) In articular rheumatism it seems to be almost a specific, as, in the single case in which it failed to give relief, failure can be regarded as attributable to the complications existing in the case.

(9) No difference is evident as regards its influence upon acute or chronic pain; it appears to act equally well in both cases.

(10) The five cases in which chills, cold sweat, palpitation of the heart, and symptoms of syncope followed its use show that its employment should be carefully watched, although in no cases were the symptoms severe enough to cause any anxiety. Since in none of these cases was cocaine injected with the antipyrin, the results are attributable to the latter alone.

(11) Only in the rarest instances will these injections fail to produce some improvement.

In most cases the author employed a solution of antipyrin made in boiling distilled water. In other cases he employed a solution consisting of one hundred and fifty grains each of antipyrin and water in which three grains of cocaine were dissolved, the latter solution being ordinarily less painful in its employment.

It is to be regretted that the author has not in any case given more accurate statements as to the dose which he employed, other than saying that he employed a syringeful of these solutions.

Correspondence.

[From our Special Correspondent.]

PARIS LETTER.

DR. PHILIPPE RICORD.

PARIS, November 15, 1889.

MR. EDITOR: — Dr. Philippe Ricord was one of the oldest members of the profession in France. He was born at Baltimore, on the 10th of December, 1800, whither his father had gone to reconstitute a fortune that he had lost. He commenced his medical studies in America, under the direction of his elder brother, J. B. Ricord, a distinguished Naturalist of the United States and of Rousseau, a deep disciple of Broussais. In 1820, the two brothers came to France, and continued their medical studies at the Faculty of Paris. In December, 1822, he was appointed Hospital Interne, after a successful competition, and was attached to the service of Dupuytren at the Hôtel Dieu, where he remained two years, and was then transferred to the Pitié Hospital, where he was placed under Lisfranc. On the 5th of June, 1826, he presented his thesis for the doctorate of the Faculty of Paris, the subject of which was: Divers Propositions of Surgery. As he had not sufficient means to live in Paris, he went to Olivet, near Orleans, where he remained a short time, and then went to Crouy, in the Department of the Seine and Marne. Here he soon made a good practice, and became very popular, but a small provincial town was not sufficient for his ambition. He, therefore, returned to Paris, and in 1828, he presented himself at the competitive examination for the post of Hospital Surgeon, which he obtained, and was attached to the Pitié Hospital; and being still in poor circumstances, he maintained himself by giving private lectures on surgery. In 1831, he was appointed principal surgeon to the Hôpital du Midi, the well-known hospital for venereal diseases in the male, which was the starting point of his fortune and of his celebrity. He retired from the hospital in 1863, having attained the age-limit for hospital surgeons in this country. During the twenty-nine years that he directed the clinic of this hospital, his reputation increased not only on account of the progress he caused to be made in the treatment of the special maladies to which he devoted himself, but on account of his encyclopædic knowledge, the firmness of his hand, the spontaneity of his views, his boldness of initiative, his quick intelligence, and his kindness to his pupils. It will be remembered that he delivered his clinical lectures in the open air, under the shade of the lime trees of the garden of the hospital. Around him, placed on chairs and on benches arranged in a circle, was a numerous audience, composed of doctors and of students from all parts of the world, listening with attention to the doctrines developed by the celebrated head of a school which he had formed. It was more a familiar conversation than a didactic lecture, which was much appreciated by his hearers. At this period the syphilographers in repute were the two Cullerierś (uncle and nephew), Sagneau, Cazenove, Devergue and Gibert. All, with the exception of Cullerier, junior, believed in the identity of blenorrhagia and of syphilis. Ricord, after Balfour, Tode, Benjamin Bell and Hernandez, distinctly separated blenorrhagia from syphilis. His opinion was based on experiments by inoculation, and this was the first step he had taken in this direction. If the separation between blenorrhagia and ordinary chancre was well-marked, there was still a certain amount of obscurity in that which concerns syphilis. Jourdan and other syphilographers of his time saw in the manifestations of syphilis only symptoms of phlegmasia. It was the period of the so-called physiological school. Ricord had to struggle against this school, which was not difficult to combat. He had very strong adversaries in the school of the Saint-Louis Hospital. Ricord, always after inoculations, established that the primary chancre alone can give syphilis. He divided syphilis into three periods, primary, secondary and tertiary accidents. Syphilis can only commence by primary accidents. But in 1852, Bassereau separated simple chancre from indurated chancre; in 1855, Clerc established his theory of hybridity. Ricord, nevertheless, firmly maintained his doctrine, and during twenty-eight years (1831–1859) he used all his talent to establish, defend and propagate it. It will be remembered with what energy he combated syphilization. In 1859, the Minister of the Interior requested the Academy of Medicine to give its opinion on a very important question, to wit, the transmissibility of the secondary accidents of syphilis from a wet nurse to her nursling and reciprocally. A Commission was named to study the question, and Gibert was appointed reporter. Gibert's report was admirably written, and his conclusion was in favor of transmissibility. To the great astonishment of the members present at the meeting of the 31st of May, 1859, Ricord bowed assent to the report of Gibert, abandoned the ideas which he had professed for more than a quarter of a century, and finally admitted the transmissibility of these accidents. From the time he left the hospital to within a few days of his death he continued to practise his profession, and more especially in that branch which rendered him so famous. Of commanding stature, eloquent, witty and laborious in research, he became the chief of a most famous school from which emanated a group of young savants, at the head of whom may be placed Dr. Alfred Fournier, who will continue his practice and worthily perpetuate his memory. In 1850, Ricord was elected member of the Academy of Medicine; and in 1868, he was elected its President, and notwithstanding his great age, he attended regularly the meetings of the Academy. In 1869, he was appointed Consulting Surgeon to Napoleon III. During the Siege of Paris, he served as an ambulance surgeon, when he showed great patriotism and a remarkable amount of energy and bravery, for which he was raised to the dignity of Grand Officer of the Legion of Honor. He had received more than two hundred decorations from different foreign governments.

Few medical men could boast of such a successful prac-

tice as Ricord had, in a financial point of view, for from comparative poverty he became one of the wealthiest in the profession. He became the proprietor, in a few years, of the magnificent house he occupied in the Rue de Tournon, which is of itself of historical interest, each room in which is a veritable museum furnished with rare objects and paintings of great value. He was very liberal, and lived luxuriously, but as he was rather careless in the administration of his affairs, he often fell into money difficulties. From these, however, he was relieved when he handed over to his friends the management of his affairs.

At the late general elections, on the 6th of October, at Paris, he considered it his duty to come all the way from Versailles, where he generally spent his summers, in order to deposit his vote in the urn, and immediately started to return to Versailles, but being late for the train he waited an hour at the station for the next train, when he took a cold and had to return to his home in Paris. A few days after this he was seized with symptoms of pneumonia, which carried him off in three days. He had full possession of his mental faculties till within a few hours of his death, which took place at three o'clock on Tuesday morning, the 22d October, 1889.

His funeral, which he had regulated in his will, took place on the following Saturday. It was one of the largest, as well as one of the most imposing, ceremonies of this kind which has taken place in Paris for some time past. The large court-yard of the house was beautifully draped and converted into a chapel. At the foot of the coffin were placed on a velvet cushion his numerous decorations. At noon precisely the coffin was removed, when military honors were rendered to the deceased doctor as a Grand Officer of the Legion of Honor. The cortege then set out, headed by the military, while the band played Chopin's famous funeral march. The service at the Church of St. Sulpice, which was entirely draped, was extremely impressive. The building, although large, was still insufficient to contain the number of persons in attendance. The religious ceremony over, the cortege proceeded to Père la Chaise, where the coffin was placed in a family vault, erected by himself many years ago. Some eloquent parting words were delivered by Dr. Péan, on behalf of the Academy of Medicine, and M. Peyron, on behalf of the Assistance Publique.

By his will Dr. Ricord left 10,000 francs to the Académie de Médecine, and 5,000 to the Surgical Society, for prizes.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 23, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	612	199	12.32	13.76	2.56	1.60	4.48
Philadelphia	1,040,245	327	108	12.00	11.20	.60	3.00	6.30
Chicago	830,000	—	—	—	—	—	—	—
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	140	48	6.39	9.23	—	2.84	2.13
St. Louis	450,000	—	—	—	—	—	—	—
Boston	413,567	168	56	16.80	13.20	1.80	4.20	9.60
New Orleans	250,000	—	--	—	—	—	—	—
Cincinnati	225,000	—	—	—	—	—	—	—
Washington	225,000	98	29	16.32	10.20	3.06	—	8.16
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	26	10	11.55	19.25	—	7.70	—
Charleston	60,145	39	10	10.24	17.92	2.56	5.12	—
Portland	40,000	12	2	16.66	8.33	—	—	16.66
Worcester	78,292	21	9	19.04	14.28	9.52	—	—
Lowell	71,518	32	7	28.17	9.39	—	16.65	6.26
Cambridge	65,552	22	11	22.75	18.20	4.55	4.55	13.65
Fall River	62,647	14	2	7.14	21.52	—	7.14	—
Lynn	55,334	12	0	—	33.33	—	—	—
Springfield	40,731	11	3	—	—	—	—	—
Lawrence	40,619	—	—	—	—	—	—	—
New Bedford	37,253	13	6	23.07	15.38	7.69	—	7.69
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,118	—	—	—	—	—	—	—
Salem	29,011	14	6	14.28	14.28	—	—	7.14
Brockton	28,813	—	—	—	—	—	—	—
Chelsea	28,167	10	—	—	30.00	—	—	—
Haverhill	26,058	4	2	50.00	—	—	—	25.00
Taunton	25,170	—	—	—	—	—	—	—
Gloucester	24,263	5	1	—	20.00	—	—	—
Newton	21,553	4	1	—	—	—	—	—
Malden	19,774	6	0	16.66	—	—	—	—
Fitchburg	17,534	6	2	16.66	—	—	—	—
Waltham	17,332	3	0	—	—	—	—	—
Pittsfield	15,502	—	—	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	1	0	—	—	—	—	—
Quincy	13,728	2	2	—	—	—	—	—

Deaths reported 1,602: under five years of age 414; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 206, acute lung diseases 225, consumption 203, diphtheria and croup 87, typhoid fever 42, diarrhœal diseases 29, scarlet fever 15, cerebro-spinal meningitis 10, whooping-cough 10, measles 6, malarial fevers 4, erysipelas 2, small-pox 1.

From scarlet fever, Philadelphia 6, New York 5, Baltimore, Lowell and Waltham 1 each. From cerebro-spinal meningitis, Washington 4, New York, Philadelphia, Baltimore, Nashville, Worcester and Lowell 1 each. From whooping-cough, New York 7, Boston, Washington and New Bedford 1 each. From measles, New York 6. From malarial fevers, New York 3, Charleston 1. From erysipelas, New York and Worcester 1 each. From small-pox, Boston 1.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,555,406, for the week ending November 16th, the death-rate was 18.3. Deaths reported 3,353: infants under one year of age 831; acute diseases of the respiratory organs (London) 321, scarlet fever 72, measles 70, whooping-cough 56, diphtheria 54, diarrhœa 36.

The death-rates ranged from 11.7 in Birkenhead to 28.5 in Preston: Birmingham 16.9, Hull 13.0, Leeds 19.9, Leicester 17.3, Liverpool 19.4, London 17.4, Manchester 26.7, Nottingham 15.4, Sheffield 18.7.

In Edinburgh 20.7, Glasgow 22.9, Dublin 26.3.

The meteorological record for the week ending Nov. 23, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending Saturday, Nov. 23, 1889.	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.		Velocity of Wind.		State of Weather.[1]		Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,..17	30.405	36.5	48.0	25.0	66	34	50.0	W.	S.W.	14	8	C.	C.		.0
Monday,..18	30.270	38.5	46.0	31.0	45	81	63.0	N.W.	N.E.	7	7	O.	C.		.0
Tuesday,..19	30.035	45.5	48.0	43.0	92	100	96.0	N.E.	N.E.	14	36	T.	R.		.45
Wednes..20	29.750	51.5	56.0	47.0	97	79	88.0	N.W.	S.	5	10	T.	C.		.85
Thursday,.21	29.695	47.5	52.0	43.0	78	93	85.5	W.	S.E.	10	8	C.	R.		.10
Friday,....22	29.365	47.0	51.0	43.0	93	74	83.5	N.W.	S.W.	9	12	R.	O.		.30
Saturday,.23	29.780	47.0	51.	43.0	85	72	78.5	S.	W.	11	8	O.	C.		.0
Mean for Week.															

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 23, 1889, TO NOVEMBER 29, 1889.

By direction of the Secretary of War the extension of leave of absence granted Captain VALERY HAVARD, assistant surgeon, in S. O. No. 240, October 15, 1889, from this office, is further extended one month. Par. 1, S. O. 272, A. G. O., November 21, 1889.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING NOVEMBER 30, 1889.

GUNNELL, F. M., medical director. Placed on the Retired List, November 27, 1889.

GAINES, J. H., surgeon. Ordered to duty at Army and Navy Hospital, Hot Springs, Ark.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE THREE WEEKS ENDING NOVEMBER 30, 1889.

FESSENDEN, C. S. D., surgeon. To inspect unserviceable property at Cincinnati, Ohio. November 18, 1889.

MURRAY, R. D., surgeon. Granted leave of absence for thirty days. November 30, 1889.

PURVIANCE, GEORGE, surgeon. Detailed as chairman, Board of Examiners. November 20, 1889.

GASSAWAY, J. M., surgeon. Granted leave of absence for twenty-nine days. November 13, 1889.

GODFREY, JOHN, surgeon. Detailed as member Board of Examiners. November 20, 1889.

IRWIN, FAIRFAX, surgeon. Detailed as recorder, Board of Examiners. November 20, 1889.

CARTER, H. R, passed assistant surgeon. Granted leave of absence for fifteen days. November 29, 1889.

NORMAN, SEATON, assistant surgeon. Ordered to New York Marine Hospital for temporary duty. November 21, 1889. To examination for promotion. November 22, 1889.

FATTIC, J. B., assistant surgeon. Ordered to examination for promotion. November 22, 1889.

HEATH, F. C., assistant surgeon. Ordered to examination for promotion. November 22, 1889.

MAGRUDER, G. M., assistant surgeon, Ordered to examination for promotion. November 22, 1889. Granted leave of absence for twenty-seven days. November 29, 1889.

PERRY, T. B., assistant surgeon. Granted leave of absence for twenty-five days. November 29, 1889.

COBB, J. O., assistant surgeon. Granted leave of absence for thirty days. November 29, 1889.

SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. — A Regular Meeting of the Society will be held on Monday, December 9, 1889, at 8 o'clock, P. M., at the Medical Library, 19 Boylston Place.

Dr. J. B. Ayer, "A Case of Intussusception complicated by Pregnancy and Tuberculosis." Dr. A. S. Cabot, "Two Cases of Abscess of the Liver opening through the Pleural Cavity; Operation; Recovery." Dr. J. Homans, "A Successful Case of Removal of a Retro-peritoneal Fatty Tumor."

Election of new members.

F. B. HARRINGTON, M.D., *Secretary.*

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — The Section for Clinical Medicine, Pathology and Hygiene, will meet at 19 Boylston Place, on Wednesday, December 11th, at 7.45 o'clock, P. M.

Papers: Dr. H. F. Vickery, "The Treatment of Chronic Diarrhœa"; Dr. F. E. Cheney, "Errors of Refraction and Insufficiencies of Ocular Muscles, as Causes of Chorea, with Cases." Drs. O. F. Wadsworth, D. Hunt, M. Standish, C. F. Carter, E. E. Jack and others are expected to take part in the discussion.

ALBERT N. BLODGETT, *Secretary*, 138 Boylston St.
A. L. MASON, M.D., *Chairman.*

OBITUARY. RUDOLPH TAUSZKY, M.D.

Dr. Rudolf Tauszky, at one time a well-known physician of New York City, being an expert in lunacy cases and in questions of sanitary reform, died November 21st, at Bloomingdale Asylum, where he had been a patient for over three years, having been confined there soon after making an attempt to kill his young wife and to commit suicide. This happened on January 4, 1885. Dr. Tauszky, who was born and educated for the medical profession at Pesth, Hungary, came to this country in 1862, was a hospital surgeon in Washington, and afterward served a little time in the field. At the close of the War of the Rebellion he returned to Europe and made a special study of women's diseases in the Vienna hospitals. Returning to this country, he joined the regular army and was sent to the Western frontier and New Mexico. He came to New York in 1868, served on the Board of Health and became interested in the tenement-house problem, and lectured and wrote a great deal on sanitary reform. A favorite project of his was a system of free warm baths for winter, which according to his plan, would be largely self-supporting. He was for nearly ten years connected with Mount Sinai Hospital. For some years before his retirement he was frequently called as an expert in cases of alleged insanity. In the spring of 1884, he took the stand to assert the sanity of Miss Mary Irene Hoyt in the famous will case, and during the year following he confined himself almost entirely to the study and cure of mental diseases.

BOOKS AND PAMPHLETS RECEIVED.

Chronic Inversion of the Uterus. Reduction by a New Method. By Henry O Marcy, A.M., M.D., LL.D., of Boston. Reprint. 1889.

Death Not a Necessity. A Treatise on "Immortality," Founded on Bible Truths. By Joseph Wheeler, of St. Louis, Michigan.

The Cure of Crooked and Otherwise Deformed Noses. By John B. Roberts, A.M., M.D. Philadelphia: P. Blakiston, Son & Co. 1889.

The Cure of Hernia, by the use of the Buried Antiseptic Animal Suture. By Henry O. Marcy, A.M., M.D., LL.D., of Boston. Reprint. 1889.

Original Articles.

TREATMENT IN TYPHOID FEVER.[1]

BY CHARLES F. FOLSOM, M.D.,
Visiting Physician, Boston City Hospital.

THE subject suggested for this evening was the maintenance of the heart's strength in typhoid fever. But, as that is an index of the general measure of strength, its therapeutics involve a consideration of the general question of treatment. There have entered my service at the City Hospital 152 cases registered as typhoid fever, — 14 in May, June and July, 1887, with three deaths, including two in which there was no autopsy and not evidence to justify the diagnosis; 57 from May 1 to October 17, 1888, with two deaths, and 81 from June 1 to October 1, 1889, with 10 deaths. Altogether, 15 died, making an average mortality of 9.87 per cent. (or 21.43 with and 7.14 without the doubtful cases) in 1887; 3.51, in 1888; 12.35, in 1889; and 8.69, for the 138 cases in 1888 and 1889; or 8.66 for the 150 cases. Not only is the ratio of deaths to cases in the hospital less in recent years from typhoid fever, but the general death-rate from that disease has materially diminished as may be seen by the accompanying charts.

The 82 cases this year include one which entered the service just before I came on duty. The short continued fevers, with slight or doubtful enlargement of the spleen, were not recorded as typhoid. All other doubtful cases were excluded, except where the diagnosis was affirmed by autopsy, and no others of them died. In 51 the spleen could be felt; its upper border being at the sixth rib in nine, at the seventh in 41, at the eighth in one. In all the others it was clearly made out to be enlarged by percussion, except once, where there was also broncho-pneumonia of the left lung, and again in a patient who died of acute alcoholic mania with convulsions on the second day after admission, in whom there was found *post-mortem* slight swelling of the follicles and Peyer's patches without enlargement of the spleen. In those cases in which the spleen was not felt, its upper edge was at the seventh rib in 11, seventh interspace in one, eighth rib in 15.

It is quite true that there may be acute hyperplasia of the spleen in various conditions beside enteric fever, acute and chronic, of malarial origin and otherwise. But I should not accept, in the second or third week, as typhoid, any case, if the spleen were not found enlarged, unless for some reason, as pneumonia of the left lung for instance, the size of the spleen could not be ascertained. Its anterior edge may be difficult, often impossible, to make out by percussion, but its vertical diameter can be estimated, at least approximately. In doubtful cases, the enlargement or not of the spleen by percussion may be decisive, as, for instance, in a young woman whom I saw in consultation, supposed to have acute mania. With some difficulty she was kept quiet long enough for examination, and the enlarged spleen (8th to nearly 12th rib) settled the diagnosis of typhoid fever, saving her from being sent to an insane asylum and us from an unfortunate mistake. The time, rate and degree of enlargement naturally vary in different cases, just as there is no fixed rule for the return to normal size, and in my cases without definite relation to the severity of the disease.

A number of cases showed in their temperature charts a malarial influence, and last year, two had distinct ague during convalescence. There were also two marked cases of intermittent fever admitted, in regard to which the evidence seemed conclusive that they originated in Boston.

During the year, one house-physician, one nurse and one ward-maid have had typhoid fever, making in the last six years four house-physicians, sixteen nurses, three ward-masters, two window-washers, two laundresses, and five ward-maids, in all thirty-two persons, while employed in the wards or laundry, a certain number of whom at least, it is fair to presume, contracted the fever there. I have not been able to find in these six years a clear case of a patient having become infected in the wards. In two cases where the question arose, both entered the hospital for rheumatism. In one, this year, the spleen was not examined until the eleventh day, the case having been supposed to be uncomplicated acute rheumatism, and was then enlarged, the upper edge reaching the top of the eighth rib. The infection could hardly have been of hospital origin. In the other, several years ago, the marked rise in temperature was on the fourteenth day after admission, which marks its origin as doubtful. The sanitary administration of the hospital is admirable, and leaves nothing to be said upon that point.

In 40 patients albumen was found in the urine; three had diffuse nephritis and recovered; one, and probably two, had interstitial nephritis, of whom both died. Four had broncho-pneumonia, and four pneumonia. Mild bronchitis was exceedingly common. The three pregnant women recovered, one with abortion in the third month, the other two without miscarriage in the sixth. Four nursing women got well. Two were sent to insane asylums with mania, one with acute dementia regained her mind, but afterwards died. There was troublesome, often obstinate, vomiting with 23, and for 16, rectal alimentation was resorted to. There was diarrhœa in 31 cases, in five severe; intestinal hæmorrhage readily controlled in four; in 10, multiple neuritis, not including the mild cases in convalescence.

Of the 10 who died, two were moribund when they entered the hospital and two died within four days of entrance. Two others were unable to retain sufficient food or nutrient enemata, another had interstitial nephritis with enlarged heart. One with phthisical antecedents had had hæmoptysis. One died of exhaustion from severe gastric hæmorrhage and embolism. One had multiple neuritis in severe form, and probably involving the pneumogastric nerve. In reviewing them now, I cannot see how the chances of eight might have been improved. The remaining two, with my present experience, I should treat again, as in two cases to be detailed later, by stopping the use of alcohol and giving opium more freely. One had severe diarrhœa, contracted kidneys and slightly enlarged heart. In the other, the predominance of cerebral and mental symptoms, the brown consistent dejections, the absence of distension or tenderness of the abdomen, a phthisical family history and a negative temperature chart, caused a doubt whether miliary tuberculosis might not be the cause of the enlargement of the spleen, the upper border of which was at the seventh interspace, the edge lower not being felt.

[1] Read before the Suffolk District Medical Society, October 26, 1889.

While we admit that many recover from typhoid fever without active medical treatment, it is always safe to take the ground that in each case, however mild in appearance, the illness may prove long, serious or fatal. The unexpected constantly happens. This is especially true of hospital patients, who are, upon entrance, often weak from having been ill for a considerable time without sufficient care, or debilitated by bad habits and bad living. They must be discharged, too, if recovered, ready to go to work at the earliest possible moment. They need every chance to be turned in their favor, not only for life, but for the best results as regards strength.

If not later than the beginning of the second week and there has not been severe diarrhœa a mild cathartic is indicated by all the pathological views held at present. Whether calomel has any specific action or not I am not sure, but in a single efficient dose it is mild and harmless. My experience of it is that after its action there is a greater readiness to take food than with other cathartics, as is the case also in the course of the fever from a fifth or tenth of a grain three times a day for two or three days.

I had thought that I was on solid ground as to food, until one of our accomplished physicians criticised the diet of one of his former patients, then in my ward, on the ground that it had not been limited to milk. But the year's experience has satisfied me that with as great a variety as is safe, patients eat more, that the stomach is less likely to give out, that the strength is better conserved for the later demands upon it, and that no harm is done. I continued to give milk, egg-nog, strained broth, beef tea, and gruels, with coffee or tea, often both. After the first week, I am usually not satisfied with less than from sixty to ninety ounces per day for an adult. One article of food, matzoon, which I have found valuable when the stomach could not bear anything else at my command, has proved of such value in so many cases that I desire to call the attention of the Society to it. It is an Armenian preparation of milk fermented with the yeast plant under especial conditions of temperature, etc.

Nutrient suppositories and enemata four to six times in the twenty-four hours can be used, and from several days to several weeks, according to the patient; but I have rarely found them of much avail, except for a few days, as an exclusive source of nourishment. Forced feeding with the nasal or œsphageal tube in violent resistance is dangerous and ineffective.

If I have given my patients a fuller diet than has been customary, I have, on the other hand, restricted them as to solid food later than is usual. They sit up after about a week's duration of the indications of convalescence, and then have crackers or bread without crust, the return to meat and a mixed diet being very gradual. I also personally direct for each day the length of time for each patient to sit up, beginning with twenty minutes, hoping by these precautions to at least diminish the chances of relapse. A small quantity of quinine, a grain or two, three times a day, is useful at least in improving appetite.

To fourteen typhoid patients this year out of eighty-two, no alcohol was given. It was prescribed for six as a stimulant for a single dose a few times or for a few days. Seventeen had wine in small quantities or as a vehicle for lactate of iron. Twenty-five were given wine, Tarragona, sherry, often as wine whey, champagne, in quantities from three to twenty ounces daily. Fifteen had wine and brandy and whiskey. To three brandy was given, to one brandy and whiskey, and to one champagne, brandy and whiskey.

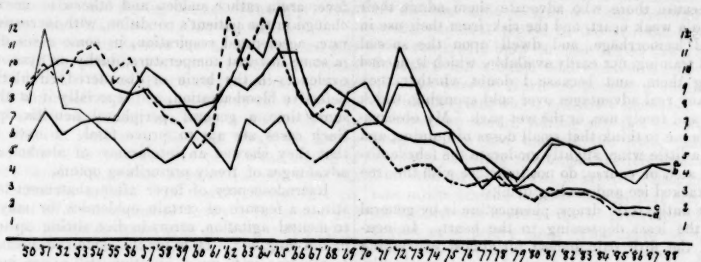
Wines have seemed to me to possess some advantages over brandy and whiskey besides being less irritant in the same degree of alcoholic dilution and less likely to contain amylic alcohol and the injurious properties of impure liquors. In moderate amount, wine promotes appetite and digestion and acts as food or at least takes the place of it. I know of nothing else which in many cases of typhoid fever does so well in quieting delirium, calming restlessness and relieving sleeplessness, controlling diarrhœa, and for these purposes I prefer it to medicine. As it does not elevate the temperature it may be prescribed in any stage of the disease. It is not always needed, the frequent ready resort to its use constitutes its greatest danger to the community, and the precautions to prevent its abuse naturally suggest themselves to physicians. Often other stimulants answer as well.

When alcohol is used as a force-regulator to stimulate depressed nervous energy, to rouse a flagging heart, its proper dosage seems to me one of the most difficult problems in therapeutics. While I believe in its free use to accomplish its purpose, when it is needed, my impression is that too much is oftener given than too little. I doubt whether there are many cases of typhoid fever, for in it there is not often a few days' crisis as in pneumonia, where more than the quantity which is oxidized and excreted, or about the equivalent of four ounces of good brandy a day, can be ordered to advantage for a considerable length of time. Frequently not so much can be taken continuously and there should usually be in each twenty-four hours, a sufficient period during which it is not given, to secure its elimination. The question of dosage varies so much in different patients that there is no law for it but the needs of the individual case. The pulse and respiration are better guides to its use than the temperature, but best of all is the whole state of the patient. With acute dementia, persistent coma-vigil, and neuritis involving the pneumogastric nerves, alcohol seems to me to be contra-indicated (as it is to people of certain temperaments or idiosyncrasies in every condition) in all but small quantities.

Two instructive cases this season are a young woman, entirely temperate, and a man who had for a long time been a hard drinker. Both were on the dangerous list with high temperature, pulse, and respiration, great prostration, and those symptoms which are generally considered to indicate free stimulation. The young girl had acute dementia, also, and bronchopneumonia. She was taking twelve ounces of champagne daily and three ounces of whiskey in nutrient enemata. Considering the alcohol prejudicial to her mental recovery, I omitted it, and took the chance of her strength holding out. She improved in all respects almost at once, and was well on in promising convalescence when a large gastric hæmorrhage and an embolism in the leg proved fatal. Encouraged by the improvement in this case, I dropped the alcohol with the man. He began to improve in a day, and recovered. In both cases an opiate was given every four or six hours when the alcohol was omitted.

Judicious means of controlling or regulating fever comes next to the wise use of alcohol in typhoid fever, their more or less enthusiastic supporters giving to one

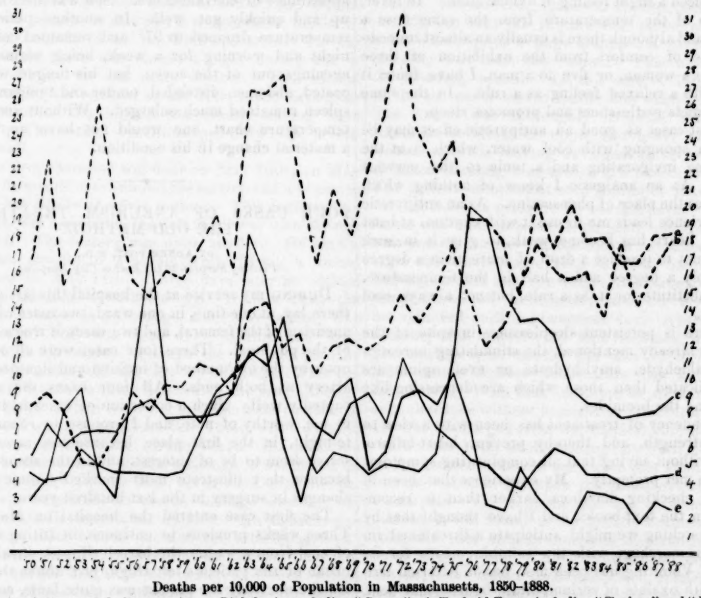
Chart No. 1.



TYPHOID FEVER (including "Typhus" Fever and "Fever"), 1850–1888.
Deaths per 10,000 of Population.

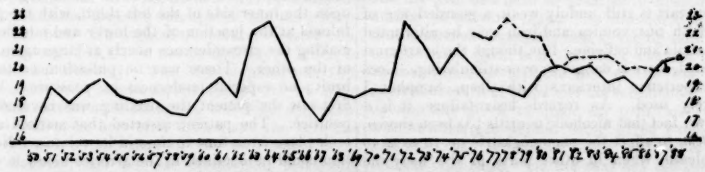
a, Massachusetts. *b*, Boston. *c*, England. *d*, London.
1, Roxbury annexed to Boston. 2, Dorchester annexed to Boston. 3, Charlestown and West Roxbury annexed to Boston.

Chart No. 2.



Deaths per 10,000 of Population in Massachusetts, 1850–1888.
a, Diarrhœal Diseases. *b*, Pneumonia. *c*, Diphtheria, including "Croup." *d*, Typhoid Fever, including "Typhus" and "Fever," *e*, Scarlet Fever.

Chart No. 3.



Total Deaths per 1,000 of Population, 1850–1888.
a, Massachusetts. *b*, England.

or the other the precedence. I have never used cold baths because those who advocate them admit their danger to a weak heart, and the risk from their use in intestinal hæmorrhage, and dwell upon the special skill and training, not easily available, which is needed in giving them, and because I doubt whether they possess any real advantages over cold sponging, which I prefer and freely use, or the wet pack. My observation leads me to think that small doses of quinine, and possibly a little wine, slightly moderate the febrile disturbance and, of course, do not interfere with the free use of cracked ice and cooling drinks.

Of the antipyretic drugs, phenacetine is by general consent the least depressing to the heart. In neuralgia of the fifth pair, indeed for almost everything covered by the vague term headache, it is invaluable. I have given it in doses of twenty grains repeated in an hour for several successive days with the greatest relief to severe pain in the head and without apparent harm, in the first week of typhoid fever. In health the small dose, in my experience, has oftener than not produced a slight feeling of exhilaration. In fever, the drop of the temperature from the same dose is greater, and although there is usually an almost immediate sense of comfort from the exhibition of three grains to a woman, or five to a man, I have found it to be with a relaxed feeling as a rule. In the same dose it quiets restlessness and promotes sleep.

In most cases as good an antipyretic effect may be got from sponging with cool water, which is at the same time invigorating and a tonic to the nervous system. As an analgesic I know of nothing which fully takes the place of phenacetine. As an antipyretic my experience leads me to use it with caution, at least after the heart has become weak, to give it in such doses as not to produce a drop of more than a degree or possibly a degree and a half in the temperature, and to substitute for it, as a rule, but not always, cool sponging.

If there is persistent sleeplessness in spite of the measures already mentioned, the stimulating narcotics like paraldehyde, amyl-hydrate or even opium are more indicated than those which are depressing like chloral and the bromides.

The tendency of treatment has been with a view to sustain strength, and thereby prevent heart-failure. It goes without saying that all complicating symptoms are to be met promptly. My experience has been in favor of checking diarrhœa earlier than is recommended in the text-books, and I have thought that by careful watching we might anticipate a threatened intestinal hæmorrhage with the suitable means for its control. Vomiting has been met, beside external irritation, with oxalate of cerium, dilute hydrocyanic acid, creasote, champagne, peptonized food, etc., and by resorting without delay to nutrient enemata and suppositories.

If the heart is still unduly weak, a guarded use of digitalis with nux vomica and iron may be alternated with strychnia and caffeine. But, though the heart must be sustained, there is danger in over-stimulating. Coca in my experience interferes with sleep, camphor I have rarely used. As regards heart-failure, it is a well-known fact that alcoholic neuritis has been shown, *post-mortem*, to affect the pneumogastric nerve so as to produce death, when in other parts of the body the symptoms were not alarming. In diphtheria I suppose that heart-failure is admitted to be often due to the same cause. I believe that the indications of it in typhoid fever are a rather sudden and otherwise unexplained change in the patient's condition, with increased pulse-rate, accelerated respiration, in some cases elevated, in some lowered temperature, dusky or cyanotic skin, evidences in the brain of disordered circulation and defective blood-aeration, and especially if at about the same time a general peripheral neuritis appeared. Such cases are apt to prove fatal. I have thought that they showed an intolerance of alcohol, and the advantages of freely prescribing opium.

Recrudescences of fever after abatement may constitute a feature of certain epidemics, or may be due to mental agitation, errors in diet, sitting up too early or too long, etc. How far the same statement applies to relapses is to me a question still under judgment. The temperature is alone no certain guage of condition or guide for treatment. One of my patients whose temperature had been between 100° and 101° for a week, had a clean tongue, cool skin, natural abdomen, spleen returned to normal size, and all the appearance of convalescence. She was allowed to sit up and quickly got well. In another patient, the temperature dropped to 97° and remained below 99° night and morning for a week, being normal three evenings out of the seven, but his tongue was still coated, abdomen distended, tender and tympanitic, his spleen remained much enlarged. Without seeing his temperature chart, one would not have appreciated a material change in his condition.

FOUR CASES OF ANEURISM TREATED BY THE OLD METHOD.[1]

BY ABNER POST, M.D.,
Visiting Surgeon to the Boston City Hospital.

DURING my service at the hospital this last summer there lay, at one time, in one ward, two cases of diffuse aneurism of the femoral, and two cases of true aneurism of the popliteal. These four cases were all operated upon by the old method of incision and ligature of the artery at both ends. All four cases did uninterruptedly well. Such a collection of cases is, it seems to me, worthy of note, and I propose to report them to-night, in the first place because the cases themselves seem to be of interest, and in the second place because they illustrate most markedly some of the changes in surgery in the last hundred years.

The first case entered the hospital on May 14th. Three weeks previous to entrance, in lifting a barrel of coal from a wagon the barrel slipped, striking the inside of the patient's left thigh, just above the knee. On the next day the patient was quite lame, could get about and walk, but noticed a swelling in the thigh, which grew larger and larger. Walking became more difficult, and upon entrance there was a large swelling upon the inner side of the left thigh, with the greatest fulness at the junction of the lower and middle thirds, making the circumference nearly as large again as that of the other. There was no pulsation, no thrill, no bruit; no especial tenderness on pressure. When I first saw the patient the swelling was covered with a poultice. The patient asserted that marked changes took place from time to time in its volume. No pulsation could be obtained in the arteries below it. As he lay in the hospital his temperature was normal, and he

[1] Read before the Suffolk District Medical Society, October 26, 1889.

was practically without pain, but on May 19th, his temperature rose and the leg became exceedingly painful, and on the 20th, the operation was performed.

An incision was made over the most prominent part of the swelling, revealing a cavity filled with clotted and fluid blood. These clots were thoroughly cleaned out with the hand, and at the bottom of the cavity the severed artery was found, into which a probe was introduced; the soft parts were dissected away, the artery exposed as well as possible and tied in the region of Hunter's canal. A similar ligature was put upon the artery below the tumor. The tourniquet was then released, and all communication between the artery and tumor was shown to have been stooped. The cavity was then carefully washed out in the first place with hot water, to check all bleeding, and finally with a solution of bichloride of mercury, 1–2000. The cavity was then closed at both ends, and without the insertion of drainage-tubes was dried as far as possible and a baked dressing applied. The subsequent history of this patient was uninterruptedly good. On the third day the temperature had arisen to 102.4°, and at that time, and because of this rise in temperature, the dressing was taken down and the limb redressed. No pus was found; there was simply a slight oozing and it was re-dressed in the same manner. The normal temperature was reached on the 27th, seven days after the operation, the highest temperature having been 102.6°. The patient was discharged July 11th, practically well.

This first operation was done on May 20th; on May 25th, the second case entered the service and was placed in the bed beside the first patient. This patient, like the first, was a mulatto; the left thigh was also the one affected. The history was quite similar. He attributed his trouble to a strain while lifting a barrel of ashes on May 14th. Three days later he noticed a lump the size of a hen's egg. By the 21st, the lump was large as an orange, and "was beating like his heart." It was then very painful and kept him awake at night. Though the leg was sore he had kept about till the day of entrance. This patient presented a swelling like that of the first, although not so large. Then from the first this tumor pulsated, and there was a bruit above it. There was a systolic murmur over the apex of the heart. No pulsation could be found in the tibials, although it was found on the right side. On the 28th, seven days after, the patient was etherized, an elastic bandage was put on, and the elastic tourniquet applied. An incision was made, the clots turned out and the arteries secured; the tourniquet was removed, and no bleeding followed. It was washed out with hot water, and then with a solution of corrosive sublimate, 1–2000; the wound was made as dry as possible, with baked gauze. The middle of the incision was left open. The dressing was so arranged as to close, as nearly as possible, the wound. A baked dressing was applied and the patient returned to bed. His highest temperature during convalescence was 102.4°, on the second day. It fell to 98.6° on the fifth day. The highest pulse was 106. His recovery was uninterrupted, except for an ulcer which had existed on the same leg before the operation. He had had some sort of a bruise, and the skin had just separated at the time of the operation. That healed entirely, and he was discharged, practically well, on July 16th.

The third case was a popliteal aneurism, as follows. The man aged forty-one, entered the hospital June 1st. He had had some sensations which drew his attention to the popliteal region in the previous March. He then received a blow in that region from a crowbar. Probably the trouble had existed before the blow. The last part of April he noticed a swelling in the popliteal region, which gradually increased. The pain had been so severe during the last five weeks as to keep him in bed most of the time. Examination showed a pulsating swelling in the left popliteal region. The stethoscope showed a bruit. Pulsation was absent in the arteries below. Three days after entrance an incision was made as in the preceding cases; clots turned out; artery tied. The depth of the wound made the operation difficult. A probe was passed into the artery, which made it more easy. The tourniquet was released, and in this case the blood flowed freely, in spite of the ligature. The tourniquet was re-applied, and a second ligature was tied above the first one. Again the tourniquet was taken off, and again the blood flowed directly from the orifice of the vessel. Another tourniquet was applied, and examination showed that the rupture had taken place at the point where quite a large branch was given off; the bleeding was from this branch. This was tied, and the bleeding ceased. In this case a large portion of the sac was removed before the wound was closed. The wound was thoroughly irrigated with 1–2000 sublimate solution, the upper and lower ends of the wound sutured, leaving an opening of two inches. A baked dressing was used and a ham-splint applied. The patient complained of a feeling of numbness and was sensitive to pressure for several days. The circulation was slow to re-establish itself, but gradually the foot became warm. On the second day after the operation the temperature rose to 104°, but experience had shown that this rise might be disregarded. The temperature fell immediately, and the dressing was not removed until the twentieth day. At the time the dressing was removed all that remained was a slight granulating spot, hardly the size of a half-dollar. This man's highest temperature has already been mentioned. With that exception he went on to entire convalescence without accident or incident of any sort. He was discharged from the hospital July 6th.

On June 15th, while making my visit, I was called to the accident-room to see a case just admitted to my service. A man lay upon the table, evidently in extreme pain. On exposing the leg, of which he complained, it was found to be greatly swollen, mottled, cold, the toes already blue, and apparently upon the point of gangrene. Closer examination disclosed, in the popliteal space, a circumscribed aneurism, which the patient said had existed for the past six months. Its existence had given him very little trouble until the previous day, when his leg had begun to swell, and the pain had been so great as to keep him awake during the previous night. So discolored was the leg that it seemed impossible that anything short of amputation could give him the least chance. He was, however, put to bed, the foot of the bed raised, to favor the return of blood and the subsidence of œdema; opium, was given to quiet his pain, and the event was awaited, the patient being given a most gloomy prognosis, and amputation being held out as affording him the only hope. On the next day the swelling had subsided in great measure, the pain was mostly gone and his leg and the upper part of his thigh had re-

covered its normal color. The improvement continued to go on for several days, until circulation had practically returned through the whole leg except the toes. The toes had become gangrenous, the line of demarcation had formed at their roots, and on June 29th, the same operation was done upon this patient as upon the others, the sac being laid open and the artery tied above and below. It was intended at the time of this operation to remove all the gangrenous toes, but although the operation had progressed without especial hindrance or difficulty, it had endured for more than an hour before I was ready to attack the toes, and it seemed best to send the patient back to bed once more and leave the amputation until a later date. This first operation was done upon June 28th, and the toes were not amputated until July 10th. They were then removed at the metatarso-phalangeal articulation, the flaps being hardly sufficient to cover the joint. This patient, notwithstanding the gloomy prognosis made to him at first, went on to an uninterrupted recovery. His wound in the popliteal region made by the operation for the aneurism was not disturbed until the twentieth day, when that, also, like the preceding case, was found to be perfectly healed except a small granulating point. The wound by which the toes were removed was much longer in healing, as it was obliged to granulate. The patient did well, and went out on August 26th. He has since returned for the removal of the head of one of his metatarsals, that having become necrosed, being imperfectly covered.

Now here are four cases, operated upon by the old method, usually the method of last resort, as it is the severest and bloodiest. It seems to me that one who had deliberately chosen the severe method, without any use of the milder methods, should give good reasons for the proceeding; and in brief I will try to give the reasons that influenced me in making the choice. It was not deliberately done from the beginning, but each case helped to determine the case that succeeded it. The first case was a diffuse aneurism in which the amount of clots poured out was very great indeed. Although the diagnosis of aneurism was made, there was still the possibility of doubt, and such an operation was chosen as would make the diagnosis perfectly certain. The old operation is the one recommended by most authorities for such diffuse aneurisms, where the clots are diffused through the muscles so freely, and it seemed eminently proper in this case because of the slight doubt in the diagnosis. The operation was done, and was successful. It proved so much more readily successful than I had been led to suppose that when the second aneurism presented itself, also traumatic, I was the more ready to adopt the method in that case. In this case, which was a more discouraging one, the man being somewhat older, and his leg being in not especially good condition, having already this injury of the skin, did equally well.

The third case was the first popliteal aneurism. Ordinarily, had that case presented itself first, I doubt not I should have tied the femoral in the triangle, or have resorted to some of the methods of compression. But these two operations of tying the artery at each end of the aneurism having proved so successful, I was led to consider the propriety of its use in this third case. Now, the lower the artery can be tied, of course the greater chance of good result to the leg, and if it is possible to destroy the artery below the point where the number of branches leave the femoral about the knee-joint, the chances for a favorable condition of the leg after the operation are certainly very much increased, I was therefore led to do the same operation upon the simple popliteal case, and here I met with a result which was even more favorable than that of the the other cases, meeting with absolutely no suppuration, the case healing as readily as a simple incision through the skin. The fourth case, on entrance to the hospital was certainly a most discouraging one. Rather unexpectedly, the leg regained its circulation, but still it was not a case in which one could experiment; it was certainly not a case in which one would care to make pressure over any part of the limb, and the operation, which should, once for all, obliterate the artery at the lowest possible point seemed to me to offer that man also the best possible chance for safety, and for that reason the old operation was done upon the fourth man also.

Now, there are various matters in connection with the operation, of which I wish to mention one or two. In the first place, in the first two operations, I was practically obliged to tie the femoral in Hunter's canal, and it is by no means an easy matter to tie the femoral at that spot. I found it absolutely impossible to isolate the artery, and was only able to tie it by passing the aneurism needle forcibly beneath it, including the adjacent tissue in the knot. During this process, the vein is easily wounded. For fear of injuring the vein, I gradually worked the aneurism needle through, between the artery and vein. In doing this the needle tended to turn in the handle, and I spoilt at least two of the needles belonging to the hospital. A similar case is recorded in the practice of a well-known English surgeon, who passed a sharp needle and wounded the vein, which gave him great trouble.

During the course of these operations I introduced the probe into the artery in order that I might more easily isolate it, making it more prominent. I had never seen the introduction of the probe, under such circumstances, recommended, and although it was the most natural thing to do, I imagined for a time that that was a new procedure upon my part; but on turning to an article by Mr. Annandale, written a few years ago, I see he figures it; and to-day, in looking over an old surgery, by Benjamin Bell, to find his directions for doing the old operation before the days of antiseptics and anæsthetics, I find there the direction to introduce a probe into the artery in order that it can be more easily isolated; that was published in 1736.

No drainage-tube was used in any case. The dependent position of the incision made it easy to secure drainage without tubes, and the cavity was as far as possible obliterated by approximating the surfaces.

I have given the preference, in these operations, to silk, over other ligatures, and their action is interesting to note. The silk was a heavy braided silk, which is quite bulky. Some two years previous I tied the femoral at the bottom of a wound in Hunter's canal with the same difficulty mentioned above, and was afterwards obliged to secure the artery in the apex of Scarpa's triangle. In this case I used the same braided silk which had been carefully prepared, and it gave no trouble until some months afterward, when an opening formed and one of the knots appeared. This occurred repeatedly, until all four knots were ejected. This same process has already taken place in two of the cases, the two popliteal ones. Each one of these cases has already extruded a knot.

To me these cases are interesting by comparing with similar cases operated upon years ago. Mr. Erichson, in the eighth edition of his "Surgery," says: "The operation of opening the sac, turning out the contents, and ligaturing the artery supplying it, is in any circumstances a procedure fraught with the greatest danger to the patient and full of difficulty to the surgeon even when he knows in what direction to seek the feeding vessel." The great difference is in the antiseptic method. In the first case the aneurism was diffuse, the clots had dissected up the muscles, and were deposited in great masses in the muscular interspaces. The loss of blood was greatest in this case, as the tourniquet proved not to have been perfectly adjusted, and the patient showed the effects of the operation enough to make us hasten it a little at the close, and the wound was perhaps not washed out with the great care its nature demanded, and a cavity formed, — which was a very natural result of the operation, — but which possibly might have been prevented. In the second and third cases there was no suppuration whatever, a result absolutely unattainable by the older method.

As a contrast to the favorable result of these cases, I wish to give a few lines only from Mr. Percival Pott, who wrote, as nearly as possible a hundred years ago. He asks in the first place in what manner this disease is to be treated, and he answers that, theoretically, it ought to be treated by the old operation, by what he called, at that time, *the* operation. He then goes on to say, "I will not take it upon myself to say, but certain I am that it does not succeed: I have tried it myself more than once or twice; I have seen it tried by others; but the event has always been fatal; excessive pain, a high degree of symptomatic fever, great tension of the whole limb rapidly tending to gangrene, and ending in mortification both upwards and downwards have destroyed all those whom I have seen on whom the operation of tying the artery has been practised. Nor have I ever seen any other operation than that of amputation which has preserved the life of the patient."

I cannot help thinking that Mr. Pott looked at the operation with a little more gloomy aspect than some other surgeons of the same day, but we certainly may believe that the operation at that time was very different in its results from what it is at the present; and in rapidly reporting these cases I do not wish to claim universal applicability for the old operation, nor do I claim that it will always meet with a favorable issue. Undoubtedly misfortunes will occasionally attend any method of treating aneurisms of the thigh; but these cases show that the old operation, under the new conditions, is very different from the operation in the pre-antiseptic days.

TWO CASES OF EXTRACTION FROM THE VITREOUS, OF STEEL WHICH HAD PASSED THROUGH THE LENS.[1]

BY O. F. WADSWORTH, M. D.

April 27, 1886, a boy of thirteen, while watching a man at work with hammer and drill, felt something strike his right eye. He was seen not long afterward by the family physician, who discovered no wound. There was moderate pain and photophobia at first, soon relieved; but on the evening of the following day he complained that he could not see with the injured eye. I saw him on the morning of April 29th, less than forty-eight hours after the injury. There was scarcely any congestion; a linear cicatrix near the centre of the cornea 2 mm. long; a scar in the anterior capsule and sufficient opacity in the lens, chiefly posterior cortical, to hide, with moderately dilated pupil, the parts behind it. A few hours later, when the pupil was fully dilated, careful examination revealed a grayish body behind the lens, nearly in the course of the wound, and slightly movable. He counted fingers at 2′–3′.

The next day the lens was a trifle clearer and through its lower and inner part the body behind it was made out to have a sharp outline. Fingers at 5′.

After another twenty-four hours the lens was still clearer and fingers were counted at 6′–7′. The foreign body could be made out pretty well with a +7. behind the mirror. It had very little motion, only swung gently with movement of the eye, had a defined angular outline, and on one surface presented the appearance of a fresh fracture of steel. Operation for removal was advised and agreed to.

The following day, May 25th, cocaine was applied, the lids washed and the conjunctiva sluiced with solution of bichloride (1–6000). The eye was rolled upward and inward with forceps; a fold of conjunctiva between the external and inferior rectus raised and divided meridianally; a Græfe knife thrust perpendicularly through the coats of the eye about 8 mm. from the cornea and the cut prolonged backward some 5 mm.; the conical point of an electro-magnet was passed in nearly half an inch in the direction of the foreign body and withdrawn once without result, but on the second withdrawal brought with it a thin scale of steel, 1½ mm. x 1 mm. There was apparently no escape of vitreous, though the conjunctiva over the wound puffed a little. The bichloride solution was again applied freely and both eyes bandaged. When the bandage was changed at the end of twenty-four hours the right eyebrow was said to be tender to touch; at no other time was there any pain. The bandage was omitted after five days. There was a little puckering of the conjunctiva around the wound.

May 9th, a week after the operation, no congestion; puckering of the conjunctiva less. Fingers at 8′.

May 12th. Fingers at 14′; lens somewhat clearer; the posterior cortical opacity chiefly central; the disc seen tolerably well through the lower part of the lens.

May 24th. Fingers 14′; conjunctiva at wound quite smooth; atropine which had been used till now omitted.

June 15th. With pupil undilated, fingers at 8′. Under dilatation with cocaine a fair view of the disc is obtained, but there is much irregular astigmatism. Well downward and outward is seen the posterior end of a brilliant white space, as if the sclera were exposed by retraction of the choroid, the lateral edges of the space sharp, at its posterior angle a red spot as of hæmorrhage.

Thirteen months after the injury the cataract had become complete and fingers were counted at 1′ imperfectly.

The patient was killed last fall in a railroad accident.

J. L., aged thirty-one, mason, applied to me January 27, 1889. Sixteen days before, while using a hammer and cold chisel, something struck his left eye. He had no pain at the time nor afterward, but since then had seen something floating before the eye.

[1] Read before the American Ophthalmological Society.

There was now a linear cicatrix in the cornea, 2 mm. long, about 3 mm. from the inner edge and just below the horizontal meridian; a small open wound in the iris at a little higher level; a band of opacity running backward through the lens from behind the wound in the iris, the remainder of the lens clear. On movement of the eye upward and downward a small dark body rose into view from behind the iris, and quickly fell again; and when the pupil was dilated by atropine this was made out as a bit of steel, showing metallic glitter as it moved, and in shape resembling a flint arrow-head. A fine cobweb-like thread was attached by one end to the steel and with a strong + lens behind the mirror a few other very fine threads could be seen. With this exception the vitreous appeared clear and the fundus normal in all directions.

On the following day, under cocaine, and after washing the lids and sluicing the conjunctival sac with bichloride (1–6000) the eye was rolled strongly upward and inward and held by forceps; a fold of the conjunctiva raised, and divided meridianally between the external and inferior rectus; a Græfe's knife thrust perpendicularly through the sclera about 8 mm. from the cornea and the cut carried backward some 5 mm. Then the small conical point of an electromagnet was pushed into the vitreous toward the foreign body and withdrawn twice without success, but at the third attempt it brought out a pointed bit of steel, measuring $2\frac{2}{3}$ mm. x 1 mm. x $\frac{1}{4}$ mm. Only a small drop of fluid vitreous was lost; the edges of the wound came together and the conjunctiva covered the wound in the sclera. The eye was sluiced again with bichloride solution and a binocular bandage applied.

There was never any pain. The bandage was removed after six days.

February 4th, a week after the operation, there was little conjunctival congestion; a moderate circular thickening over the position of the wound; no sensitiveness to light; no tenderness on movement of the eye in any direction; pupil of moderate size; cornea and lens as before; possibly a few more fine threads in the vitreous; fundus unchanged except at site of wound. When the eye was turned strongly downward and outward the posterior end of the wound of operation came into view. The sclera was bare over a wedge-shaped area, through the centre of which, but not quite reaching the apex, ran a lead-colored line. This area was bounded by a narrow strip apparently of choroid uncovered by epithelium and then came the normal fundus of a nearly uniform darkish red; the whole quite regular and sharply defined.

Nine days after the operation he began to see occasional flashes of light before the eye, perhaps a dozen in the course of the day, appearing without special cause. In a few days these became fewer and were seen mostly in the evening about 6 o'clock. There were no other symptoms of irritation.

February 15th. The thickening over the wound has disappeared. V. R. $\frac{1}{1}\frac{4}{3}$; L. with + 75 cyl. axis 90° $\frac{1}{1}\frac{4}{2}$—. Two dots of blackish pigment have appeared on the disc near its lower and outer edge. Otherwise fundus and media as before.

February 25th. Flashes only on rising in the morning and occasionally in the evening. R. $\frac{1}{1}\frac{4}{2}$ +; L. with + 50 cyl. $\frac{1}{1}\frac{4}{2}$ —. Vitreous unchanged. On the posterior capsule of the lens near the end of the band of opacity a cluster of very fine clots is seen with a strong convex lens behind the mirror. The dots of pigment on the disc noted on the 15th, are, at least one of them is larger, and there are several other black spots as shown in figure. (Some of them are represented too large, some are quite fine). A few dark dots are seen moving in posterior vitreous. Sclera visible at position of wound, but the lead-colored hue seen on 4th is not made out.



April 2d. Examined by members of the New England Ophthalmological Society. Condition about the same. V. not tested. The flashes less. Some of the pigment spots on the disc larger.

May 22d. He says that now the "fine" flashes which "are bright like a lamp but small and quick," have diminished in number, that they are seen only about once a week, then generally in the evening, but a few days after the examination in April (from which he felt no inconvenience) he began to see on first rising in the morning or in the evening a grayish light moving with moderate speed round the upper and outer side of the eye and occasionally passing more than half-way round the eye. The light usually moved from the upper and inner angle of orbit outward and then downward; sometimes in the reverse direction; rarely it "divides and shoots off." At first this appearance became more frequent, but latterly rather less so: he now sees it from three or four to a dozen times in the morning in the course of ten to fifteen minutes, rather oftener in the evening. He has been doing light work the last two weeks. Lately he has occasionally on looking to the right seen something come over the left eye from its outer side and then go back again. V. $\frac{1}{1}\frac{4}{2}$—. An extensive defect in the outer and lower quadrant of the field, encroaching slightly on the adjacent quadrants, in other directions field of normal extent. Lens as before. In the vitreous the fine threads are not more numerous, but there is, nearly in the anterio-posterior diameter, a small globular grayish body with a tail. There is more pigment on the disc and the spots previously seen have changed. The larger one depicted on February 25th is now much broken; while another, as large as it was, has formed a little below it, and there are more spots over and near the larger vessels. There are also in various directions, on or just in front of the retina, small, black rounded spots not all sharply defined, perhaps a dozen in a radius of two diameters from the disc. The bare sclera is seen at position of wound of operation, wedge-shaped, something resembling a choroidal vein crossing its apex, a small blackish mass which seems to project slightly into the vitreous over its (apparent) lower edge near the apex, and a short black band near this running nearly perpendicular to the edge, upward and inward directly opposite to the wound. Upward and inward the retina is separated, and comes nearly straight forward, looking gray and opaque, the fold cutting off the fundus to within half a diameter of the disc, and the separation extending upward and outward to a little beyond the vertical meridian, downward and inward a little below the horizontal.

June 1st. The separation of the retina is much more extensive. It reaches much farther outward above, and almost straight downward from a little to

the inner side of the disc; but the parts which looked gray on May 22d, now generally transmit a red reflex and are irregularly wavy. Black spots are visible on the separated as on the non-separated retina, often overlying vessels, and where they lie on the profile of a fold they are seen to be close to, but a little in front of, the retinal surface. The appearance of the disc is the same, as is that of the parts about the wound. V. $\frac{1}{20}$. Defect of field corresponding to the separation.

June 7th. The flashes have become less numerous, and none have been seen the last two or three days. The separation has extended rather farther outward above. Apparently the black spots on the retina are rather more numerous, and there is a little more pigment on the disc. The vitreous shows somewhat more fine opacities.

July 1st. Separation of retina appears total, but there is no part so opaque as when first seen. The disc, seen rather indistinctly, much the same. The field in which he can see the finger at 18″ is apparently only about an inch wide and three inches long. Flashes are still seen.

The interest in these two cases centres mainly in the second. It is unusual, although by no means unknown, for a foreign body to pass through the lens, cause an opacity only along the wound, and leave the curvature of the central parts at least practically unchanged. A more favorable case of the sort for operation could hardly be imagined, and the result of the operation seemed at first all that could be desired. But the appearance of the flashes nine days after the operation and their persistence, and still more, later, the presence and variation of the pigment spots on the disc and in the posterior vitreous excited doubt as to the final result, a doubt which the end only too well justified. With these exceptions, for more than two months the condition was highly satisfactory.

Considering the pigment changes observed later about the wound of operation, it is probable that an irritative proliferative process was going on there, the results of which became visible at a distance, on the disc and in the most posterior parts of the vitreous, some time before they could be seen in the neighborhood of the wound itself. It is not easy to explain the mechanism of the separation of the retina, starting as it did at a point almost the farthest possible from the wound. The vitreous was repeatedly and carefully examined, and the threads visible in it were, perhaps, not too fine, but certainly too lax to have exerted any efficient drag.

PRIMARY CANCER OF THE GALL-BLADDER AND BILE-DUCTS.[1]

BY J. H. MUSSER, M.D.,
Assistant Professor of Clinical Medicine in the University of Pennsylvania, Physician to the Philadelphia and Presbyterian Hospitals.

PART II. PRIMARY CANCER OF THE BILE-DUCTS.

EIGHTEEN cases of carcinoma of the biliary passages confined to the ducts have been collected. In the series an actual history of hepatic colic was present in two, and in three a problematical one.

Age. — The average age of fifteen cases was 56.6 years. In three cases the age was not given. The oldest was 81; the youngest 35. Four occurred between 44 and 50, three between 51 and 58, three between 62 and 68, two between 72 and 74.

Sex. — There were 9 males and 9 females.

Symptoms. — Pain was noted present in twelve cases, the duration of which continued, in individual cases, from one month to two or three years. In one case the patient is said to have had epigastric pain extending to the shoulder for ten years. Pain is one of the earliest symptoms observed. It is usually located in the epigastric region (six cases). In five the pain was present in the hepatic region or the right hypochondrium, and was either spontaneous or developed by pressure. The character of the pain varied. In one it was described as bilious colic; in another as cramp-like in the stomach; generally the pain occurred in paroxysms. It varied in intensity. In some only slight sensitiveness on deep percussion could be elicited. In one instance the pain varied at different periods of the disease (see Musser's case). Usually, however, while the most persistent, and the most frequent of all symptoms, it never created much disturbance. Of the five cases Dr. Delafield described, two had attacks of severe epigastric pain, the onset being accompanied with jaundice, and one had pain throughout the course of the disease. Paroxysmal pain, occurring particularly about the time of the development of jaundice, appears to be the most common symptom of this affection.

Jaundice is the most frequent symptom (seventeen times). In most instances its duration practically indicated the duration of the disease. The duration in twelve cases occupied the following number of months: 5. 6, 4, 5, 24, 6, 3, 15, 7, 3, 2½, 18, 24, and 36 months. It usually deepened in intensity, and in four instances it was attended by itching. It terminated in coma in two cases, and delirium in three. In eleven instances in which the stools were described, ten presented the characters usual in jaundice, and one was black from blood. In Delafield's cases the jaundice developed rapidly, and progressed throughout the course of the disease, and it was the first symptom in all the cases. In three of his series the usual hæmorrhages that attend chronic jaundice were present.

Tumor. — The statement of the occurrence of a tumor was made in eight of the cases, and the position described to be as follows: in the right hypochondrium, in the region of the pylorus, in the right iliac region, opposite the umbilicus, in the right nipple line, and in the remaining instances in the gall-bladder region. It was described as hard, rounded, painless, twice, and three times it was stated to have the characteristics of an enlarged gall-bladder. In one it was first found to be as large as a pigeon's egg, and then grew to that of a hen's egg, and was painful; in another it slowly increased in size while under observation. In two instances the tumor was only described as painful. In Delafield's cases a tumor could not be detected during life, and the autopsies showed that the infiltration of the bile-duct was not sufficiently large in any case to have been detected before death.

The liver was noted to be enlarged in eight cases, with pain and tenderness on pressure. In four the liver was not enlarged and its edge not felt. In three cases the surface and edges of the liver were particularly described as free from any nodulation.

Gastro-Intestinal Symptoms were marked in all the cases, as follows: Loss of appetite occurred in five of the cases; marked dyspeptic symptoms in four; vomiting in nine; nausea without vomiting in two; diar-

[1] Concluded from page 557 of the Journal.

rhœa in two, and constipation in the same number. Hæmorrhages from the gastro-intestinal tract were noted in two instances. As associated phenomena, in one case each, the following gastro-intestinal symptoms were noted; catarrh, bloody stools (due to jaundice probably), choleraic attack, and the symptoms of strangulation of the bowel. In two cases the abdomen was found to be much distended. The gastro-intestinal symptoms were the most marked in all of Delafield's cases, loss of appetite, nausea and vomiting occurring in each. In one instance hæmorrhages took place from the stomach, but the three symptoms indicated, jaundice, pain, and particularly vomiting, are the most prominent symptoms of this affection. In seven of the recorded cases, fever was present sometime throughout the course of the disease: in four it was intermittent; in one irregular, "associated with phthisis"; in two the characters were not described, in one of which, at least, there was an intermitting form of fever, as it was described as occurring in the evening only. In the five cases of Delafield, febrile movement was noted in one only, and in that it was probably due to suppurative inflammation of the bile-ducts.

Pathological Anatomy. — In fourteen instances the common duct was involved in the disease — once with the cystic duct; in three instances the hepatic duct, and in one the hepatic and cystic together. In three of these cases the growth was seated at the duodenal orifice. The bile-ducts were dilated in nine cases. In brief detail the pathological anatomy of each case was as follows:

(1) Common bile-ducts distended and obstructed by medullary cancer growing from internal surface. Bile-ducts dilated.

(2) Common bile-duct has encephaloid cancer near spur formed by union of cystic and hepatic ducts. Obstruction of canal.

(3) Common bile-duct closed by a tumor. Bile-ducts dilated.

(4) Common bile-duct at duodenal orifice obstructed by a cherry-sized tumor. Cylindrical carcinoma (?)

(5) Common bile-duct at beginning has walnut-sized tumor surrounding portal vein and hepatic artery. Bile-ducts dilated.

(6) Common bile-ducts at duodenal orifice is surrounded by an irregular fungus growth. Bile-ducts dilated.

(7) Hepatic duct and common duct thickened, firm walls, uniform yellow-gray. Common bile-duct collapsed but unaltered.

(8) and (9) Common bile-duct carcinoma.

(10) Dense whitish mass, no secondary deposits, occluded common and cystic ducts. Bile-ducts dilated.

(11) Common bile-duct blocked by a soft, whitish, sprouting encephaloid cancer just below junction of cystic and hepatic ducts. Duct above enormously dilated.

(12) Hepatic duct constricted by a cancerous growth. Ducts greatly dilated.

(13) Common bile-duct entirely replaced by a soft whitish growth. Hepatic duct dilated. Bile-ducts enveloped by cancerous matter.

(14) Common bile-duct has cancer at duodenal orifice, size small nut — a softened scirrhus. Bile-ducts enormously dilated.

(15) Common bile-duct has, near junction of cystic and hepatic ducts, a cherry-sized tumor; walls infiltrated and contracted. Another hard tumor in track of hepatic duct.

(16) Primary cancer bile-ducts with constriction of hepatic duct by scirrhous infiltration. Bile-ducts considerably dilated.

(17) Scirrhus of hepatic and common ducts. Bile-ducts dilated.

(18) Common bile-duct primary carcinoma, walls thickened, lumen occluded, secondary nodules in liver and head of pancreas. Cystic duct closed by cancerous mass.

Delafield states that in two of his cases the walls of the duct were the seat of cancerous infiltration alone; in two the new growth had extended to that portion of the pancreas immediately beneath the bile-duct, infiltrating its tissues to a moderate extent. In all the new growth seemed to have originated in the mucous glands in the walls of the ducts and had the characters of an epithelial cancer with cells of the cylindrical variety. In one of the cases there was catarrhal inflammation of the bile-ducts with suppurative inflammation of the adjacent liver tissue, producing small abscesses.

Gall-Bladder. — The gall-bladder was dilated and distended in eight cases, and contained calculi in seven. It was atrophied in one; occluded in one; and adherent to the pancreas in one, and the seat of some suppurative inflammation in two. Delafield found dilatation of the gall-bladder in only one of his cases.

Liver. — Gall-stones were found to be present in four cases. The organ was enlarged in eight of the cases and the seat of secondary deposits in seven. This enlargement was most common in Delafield's cases (four out of the five). The changes in the ducts have been mentioned.

Metastasis. — As just indicated, in seven instances secondary growths were found in the liver; one each in the mesenteric glands, the peritoneum and the pancreas. It is worthy of note that metastasis to distant organs does not take place save rarely. In the combined lists of cases, in one only were secondary growths found outside of the abdomen. In this instance, a case of Delafield's, the growth was found in the lungs.

The Cause of Death. — Death usually takes place from exhaustion, one-half of the cases being thus recorded. Jaundice, as previously noted was, of course, the cause of the fatal termination in two cases by coma, and the effects of the jaundice, namely hæmorrhages, caused death in one. Accidental complications, as pneumonia, pericarditis, œdema of the lungs, and ascitis were noted to be the cause of death in four of the cases.

The Symptoms of primary cancer of the gall-ducts are the symptoms of obstructive jaundice. It is seen that jaundice is the symptom common to all. Vomiting is next in the order of frequency. Pain, a tumor containing bile, and gastro-intestinal symptoms occur in all forms of obstructive jaundice and are not significant. No general symptoms arise to lead one to suspect the presence of a malignant tumor, or they are masked by the jaundice.

Hence it is difficult, in fact well-nigh impossible, to recognize the disease. By exclusion, obstructive jaundice due to external pressure may be eliminated. But jaundice, after a cicatrix in the bile passage, or in cases of adhesive inflammation, have common symptoms. Practically, jaundice due to calculi is the most

important form to recognize. Attention to the previous history and the mode of onset of the disease are important, as well as attention to the well-known phenomena of impacted gall-stone.

Conclusions. — The conclusions regarding the disease are more striking when compared with similar conclusions from cases of cancer of the gall-bladder.

(1) Carcinoma of the bile-duct is less frequent than cancer of the gall-bladder.

(2) Unlike cancer of the gall-bladder it occurs equally in both sexes.

(3) The age of both is about the same.

(4) Gall-stones are less frequent when the ducts are the seat of the disease.

(5) The gall-bladder is not much enlarged and only by dilatation.

(6) Metastasis is not common and not distant.

(7) Adhesions and ulceration and perforation do not occur.

(8) Jaundice is more frequent in the second than in the first series of cases.

(10) The last symptom mentioned contributes largely to a cause of the short duration of the disease.

(11) The sequelæ of jaundice and accidental or intercurrent diseases are the cause of death.

(12) A tumor is present in a smaller ratio of cases than when the gall-bladder is the seat of disease. It is never as large as in cancer of the gall-bladder.

Clinical Department.

SOME UNUSUAL FORMS OF DERMATITIS VENENATA.[1]

BY JAMES C. WHITE, M.D., BOSTON.

Three cases of dermatitis venenata have come under my observation within the past month, in which the exciting cause was so unusual that I wish to place them upon public record.

Case I. Chlorine. A school-girl, aged eighteen, came from X to consult me on account of an inflammation of the face. It had begun forty-eight hours previously. The skin from the middle line of the forehead downwards was uniformly red, swollen, and presented considerable areas of papules, vesicles, and oozing points. The eyelids were half-closed. The neck was in an erythematous state as low as the level of the dress, where it abruptly ceased, forming thus a sharply defined margin to the inflammation. The subjective symptoms in the part were great itching and burning. The whole aspect was that of an intense, artificial dermatitis of an eczematous type.

I in vain sought for a plausible exciting cause. The patient denied a possible contact with any well-known irritant, or exposure to any unusual influence in her surroundings. She had experienced no digestive derangement or constitutional disturbance. A local treatment, adapted to an acute eczema of a grade of intensity indicated by the cutaneous lesions present, was ordered.

Four days afterwards the patient returned and stated that she had thought in the meanwhile of a circumstance which might account for the trouble. Forty-eight hours before the attack she had been engaged at school in making chlorine gas for the purpose of testing its bleaching properties. She had turned hydrochloric acid upon black oxide of manganese in a jar, and the gas thus generated had come in contact with her face, held just above the jar, in such quantity as almost to suffocate her, and oblige her to run to an open window. The inflammation at this second visit was greatly reduced, all parts of the face, excepting the left cheek which was still occupied by a crust, having already subsided into the scaling stage of convalescence. There can be no doubt, in my opinion, that the exciting cause of the dermatitis in the case was the chlorine gas.

Case II. "Violet Water." A girl eighteen years old, presented herself at the skin department of the Massachusetts General Hospital with a fine papular eruption of bright redness, shaply defined in outline, upon the front chest. It was evidently an artificial inflammation, and on inquiry she stated that she had rubbed the affected part, some five inches square, two days previously with "violet water." At her second visit three or four days subsequently, at which time the dermatitis had almost wholly subsided, she brought the bottle of violet water. It was a bright green, alcoholic preparation, and had a strong odor of orris root, the usual substitute for the genuine perfume of violets in such cosmetics. The root of this European flag, *Iris florentina*, seems to possess acrid properties similar to those of our native *Iris versicolor*, and may well have been the irritating principle in this case.

Case III. Box. A young woman consulted me at my clinic for relief from an attack af acute inflammation of the face, which was uniformly and greatly swollen, very red, and thickly covered with a papular and vesicular efflorescence, and oozing areas. There was intense itching and burning in the part. I showed her to the class as an undoubted example of artificial dermatitis, although the closest questioning developed no evidence pointing to the exciting cause. I showed at the same time a well-marked instance of *rhus* poisoning, accidentally present, and called attention to the minute differences in the two affected faces, although both exhibited about the same degree of inflammation. There was a more uniform distribution of the dermatitis in the former, and the contents of the vesicles were not of the peculiar lurid tint, which so often characterize the latter. There was an undescribable something in the picture of the disease, which distinguished it from acute eczema. On the following day the patient returned to say that she had recalled the fact that twenty four hours previous to the first visit she had made a decoction of garden-box and applied it to her scalp, for the purpose of preventing her hair from falling out, and that the liquid had not only run down upon the face, but that she had subsequently washed her face with the rag used in applying it to the scalp. She had experienced no sensation of irritation of the scalp or face at the time. The patient was seen again five days later, and the inflammation was still severe in spite of the local treatment prescribed at the first visit. The scalp was not at all excited.

This border-plant of old-fashioned gardens, *Buxus sempervirens*, has been an object of suspicion for many centuries, as I have recorded in my work on dermatitis venenata, and belongs to the virulent family *Euphorbiaceæ*, which contains such cutaneous irritants as croton oil, euphorbia, manchineel, stillingia, Jatropha urens, and hura crepitans. I have never before met

[1] Read before the Boston Society for Medical Improvement, November 11, 1889.

with an instance of its action upon the skin, nor was I aware of its popular reputation as a hair-producing agent, which it may deserve like its relative, oleum tiglii.

A noticeable feature in all three of the cases was the ignorance on the part of the patients of the artificial nature of the affection, and of the exciting agent, until their attention was directed to this point.

A CASE OF STONE IN THE BLADDER.[1]

BY OTIS K. NEWELL, M.D.,
Clinical Instructor in Genito-Urinary Surgery, Post-Graduate Course, Harvard Medical School.

THE special consideration which induced me to give the President of this Society the above title for what I wished to present, was brevity, as most of what I have to say is appended matter hinging upon the subject of my paper.

The stone, of which the fragments weigh about five grammes, was removed from a young man eighteen years of age, and furnished a rather exceptional case of vesical calculus, in that it might be said to have been one without symptoms. Aside from pain on active motions such as athletic exercise, the patient felt no great inconvenience. The urine was normal and not over-frequently passed. The patient had been examined and catheterized by a surgeon, but no stone had been felt. On September 21st last, I examined his bladder with the cystoscope, and found a small, dark-colored calculus lying at its base. The mucous membrane of the bladder wall was perfectly healthy in appearance, presenting its normal pinkish-red color and delicately ramifying vessels. I considered that we had to do then with nothing more than a foreign body in the bladder, practically giving rise to no pathological conditions or symptoms, and concluded that, should no complications attend its removal, there should be no symptoms after it. Such proved to be the case. The stone was removed by litholapaxy, and the patient went about as usual the day after the operation. Of course, it should be as little necessary to say that the operation was done antiseptically as that ether was given. The bladder was washed with 1–500 carbolic solution, both before and after the operation.

One thing I particularly wanted to show in connection with this case was the usefulness of storage batteries in cystoscopic examination. Previous to the last month or so whatever I have done with the cystoscope I have done by the aid of the ordinary fluid battery, the one I used having a solution made with trioxide of chromium, practically pure chromic acid. This is a patented compound sold by a firm in Philadelphia and is much like chromic acid in color, but is a fine powder. There is nothing crystalline in its make-up. A large and cumbersome battery is difficult to carry about. I have here a very small storage battery with a current of about eight volts, also a battery of about sixteen volts which is suitable for running an electro-cautery. The larger of these storage batteries I have used only on an experimental cautery which can serve the purpose of the Paquelin and is much less expensive and complicated. With the ordinary current you can get a temperature that will burn organic matter pretty well.

[1] Read before the Boston Society for Medical Improvement, November 11, 1889.

In connection with evacuators there are two points about which I would like to speak. In a recent monograph on "Surgery of the Bladder," (one of sixty-five volumes composing "Deutsche Chirurgie,") is figured, much to my surprise, instead of Bigelow's evacuator, one of Thompson's, which in its make-up is, I think, much less practical than Dr. Bigelow's. Next to that is shown Ultzmann's evacuator, which always seemed to be an unscientific instrument taking into account the laws which have to be considered in constructing an evacuator. Ultzmann's evacuator practically has no trap. The only trap is furnished by the opportunity which the fragments have of dropping down the extension of the evacuator tube into a receiver. In Thompson's a complicated trap is right in front of the drive current of the bulb. There are two points which I would mention as mere oversights in Dr. Bigelow's evacuator which is better than anything excepting my own, which is merely a slight improvement on his, resulting from the great opportunities I had in studying evacuators with him, and from his showing me what he did. I think the two failures in the construction of Dr. Bigelow's evacuator are, first, unnecessary length of tube or rather distance which a fragment must travel in order to be caught; and second, that the trap is wholly unnecessary in any evacuator in which the principle of gravitation is considered. In his oldest evacuator Dr. Bigelow had a long receiver into which the fragments dropped and were pretty successfully retained, and in that old evacuator there was no trap, but later in Bigelow's and Thompson's and Ultzmann's evacuators a great deal of time has been spent in devising the most successful sort of trap for evacuators. I think if it is made as mine with no trap whatever, but with a proper receiver, a prolonged cylinder large enough so that at the moment a fragment is drawn into the bulb and the expansion is complete, by gravitation that fragment drops and no amount of squeezing will bring it out of the receiver again. Now, whichever tube orifice is used, the fact remains that there is an enormous difference between the other evacuators and mine in the distance which the fragments have got to travel, in order to be caught; and there is no comparison between them as regards time required for evacuation. Whereas, in one case, we have metallic fittings with very great weight, here we have an instrument with hard rubber finish and much less weight.

I have noticed in instrument makers both here and abroad a tendency to shorten bladder instruments. There is no reason why two or three unnecessary inches should be introduced into the bladder when a shorter instrument answers all purposes. Of course, for exceptional cases tubes and other instruments of great length must be used.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY.

H. F. VICKERY, M.D., SECRETARY.

A STATED Meeting of the Society was held Saturday, October 26th, at 19 Boylston Place. The Vice-President of the Society, DR. E. N. WHITTIER was in the chair.

The following gentlemen were appointed Secretaries of Sections: Anatomy and Physiology, Dr. M. H.

Richardson; Medical Pathology, Clinical Medicine and Hygiene, Dr. A. N. Blodgett; Obstetrics and Diseases of Women, Dr. G. Haven; Chemistry, Pharmacy and Materia Medica, Dr. F. H. Williams; Ophthalmology, Dr. M. Standish; Psychology, Dr. G. F. Jelly; Microscopy, Dr. E. M. Greene.

By a vote of the Society, the President, Dr. G. W. Gay was authorized to appoint a committee of five to prepare a list of candidates for Officers of the Society.

Dr. C. F. Folsom read a paper on

TREATMENT IN TYPHOID FEVER.[1]

Dr. A. L. Mason: I would like to say with regard to Dr. Folsom's paper, that the mortality-rate in typhoid fever seems to have declined, as he states, in Boston. I am familiar more especially with the statistics of the City Hospital. Dr. Stedman, in the third volume of City Hospital Reports, stated that in 1,200 cases the mortality was in the neighborhood of seventeen per cent., including those moribund at entrance. I would briefly call attention to the cases that have been admitted since July in the two other hospital services, in all 183 additional cases, making about 250 or 260 cases up to the middle of this month. Of these 183 cases 140 have been discharged well. There have been twelve relapses; eight cases of peripheral neuritis; eight hæmorrhages from the bowels, of which two were fatal; three moribund, that is, patients who died within forty-eight hours after admission; two who suffered from phlebitis; one from embolism, with gangrene of the leg. The number of deaths in those 183 cases was fifteen, or about eight per cent. There are, however, forty patients still remaining, most of whom are now convalescing. The number of cases in the hospital the 1st of October was one hundred or a little over: now it is only about sixty; therefore the most active typhoid season may be regarded as having passed. The number of discharges is greater than the number of admissions, and of the forty cases remaining the mortality may be expected to be small. I should think that ten per cent. would cover the mortality for the year. That is certainly an improvement over sixteen per cent. or seventeen per cent. in the earlier series of cases. It is to be attributed in part, no doubt, to the antipyretic treatment, — cold applications, cold sponging, and I think also, to some extent, to the reasonable use of antipyretic drugs.

The reaction against these drugs (antipyrine, antifebrine, etc.), has been so great that now one uses them with considerable caution. Three years ago when antipyrine was first in vogue I presented a series of cases to one of the societies, one hundred or more, in which this drug was freely used. There was a reasonable mortality, about ten per cent.; six collapses occurred, some of which were nearly fatal, therefore I seldom uses antipyrine in the later stages of typhoid. The same is true to a certain extent of phenacetine, as Dr. Folsom states, but I think that one need not be so cautious in the use of moderate doses of phenacetine as with the other antipyretics. I have used it more freely than Dr. Folsom, and have seen no decided ill effects. On the contrary, in many cases of great restlessness, high fever, delirium, semi-coma, I think that this drug has been of considerable advantage combined with other measures. It is hard to say at present what the future of these drugs may be.

[1] See page 573 of the Journal.

The cold bath treatment does not seem to have become popular, however rational it may be, and however excellent the statistics which are reported. The difficulties of administering cold baths systematically, according to the method of Brand, are very great. In his earlier books he mentions 170 cases without a death. In our hospitals, in 170 cases we should have one per cent. or two per cent. of moribunds to begin with. Different physicians have reported very different results from cold baths, and a mortality varying from sixteen per cent. to none at all under the same methods, so that it is very difficult from statistics to form a perfectly satisfactory opinion with regard either to bathing or any other mode of treatment. The fact, however, seems to be that all the measures of treatment combined have helped to lower the mortality from typhoid, and it is to be hoped that the processes will be still further improved.

Dr. Edes's results with cold bathing at the City Hospital were interesting, but not on a large scale. The cases were bad, and the mortality was not very much diminished.

The tendency to hæmorrhages which the cold bath treatment is said to increase may perhaps be a contraindication. Many of the Germans — Wunderlich, Schultze and others — are of the opinion that there are about twice as many cases of hæmorrhages with the cold baths as without that treatment.

Dr. G. H. Lyman: I don't know that I should be quite ready to accept Dr. Folsom's views as to stimulation, and yet I may. With regard to the diet I am inclined to think we do need a decided change from the diet we have had so many years. With regard to antipyretics I have no doubt that phenacetine is a better agent than antipyrine, but we must not forget that antipyrine when it first came into use was given in pretty large doses, but towards the last of its being used I think there was a great improvement in the method of using it; and I should not be at all afraid to use it now quite as freely as phenacetine. Originally, when the temperature was 103° or 104° we thought we must bring it down to normal; which was undoubtedly a great mistake. When I began to use smaller doses, oftener repeated, bringing the temperature to 101° or 102°, I had no trouble, and I consider it, used in that way, an admirable agent. I have had more experience with it than with phenacetine. The grade of the disease, the general atmospheric conditions vary in different years so that we must have a series of years, the patients treated in precisely the same way, before we can judge of the value of remedies.

Dr. S. L. Abbot: One thing has struck me in Dr. Folsom's general discussion as to the treatment of typhoid fever, and in other reports of the results as based upon hospital statistics, that not much emphasis has been laid upon the prevailing type of the fever in any special season as influencing the methods and the final results of treatment. If I observed correctly, in the second year of Dr. Folsom's cases the mortality was very low indeed. I did not gather whether he associated that fact with the special treatment employed or with some other causes. I should like to ask him whether the cases were milder in type than in other years or whether he referred that result to the treatment employed.

During the last year of my service at the Massachusetts General Hospital, to five of the typhoid fever patients in my wards no medicine was given, and all

recovered. Constipation, when it occurred, was relieved by simple injections of glycerine. The cases were mild.

DR. FOLSOM: The mortality was 3.5% last year and this year 12.4%. I think this is entirely due to the different degrees of severity in the disease.

DR. G. H. LYMAN: I would like to emphasize what Dr. Abbot has alluded to, that there are a very large number of cases of typhoid fever that need no medicine at all. Many cases in my service at the hospital go through without any treatment other than rest and careful alimentation. That brings in another and very strong element into all our statistics.

DR. F. C. SHATTUCK: Dr. Folsom's paper is valuable in many respects; and to single out one respect — the very careful observation and very careful study of the cases which it shows.

With regard to food, Dr. Folsom seems to occupy more the position of the German physicians. The Germans, I think, allow a much larger dietary in typhoid than is customary with us and with the English. They give throughout the course of the disease raw eggs not infrequently. They are not as fond of exclusive milk diet as we are. I have myself used a good deal of beef juice as being extremely nutritious, and not bulky; but, as a rule, I confine myself, during the run of the fever, to milk, when it is well borne; and my analysis of 129 cases, under my care in the hospital during the last three years, shows a mortality of 8.3 per cent.

With regard to alcohol, I think Dr. Folsom's caution is a very valuable one. I think there is no question that, on the whole, too much alcohol is given in typhoid fever, and I find that my own tendency is to give less and less. The tendency of the house-officers is to give stimulants. They have the fear of cardiac failure constantly before their minds, and I think that they are more apt to give stimulants than the visiting physicians are.

I was a little struck with what Dr. Ellery Stedman said to me the other day in conversation. He said when he was on duty at the City Hospital, he drew a line along the 120 line of the pulse, and his orders were that no stimulants should be given without his express orders until the pulse reached that line; he had had no occasion to regret the stand which he had taken.

Both Dr. Folsom and Dr. Mason alluded to the danger of hæmorrhage in connection with cold bathing. If these German statistics are correct, if they bring the mortality down to five per cent. or less, and they deal with very large figures, it does not seem to me that it makes much difference if the cold-bath treatment does tend to increase hæmorrhage. It seems to me that the central fact is that the mortality is very low. I agree entirely with what Dr. Mason said as to the very great difficulty in the introduction of cold bathing in this country. One of the difficulties, and not the least, is the system of rotation in service. If we introduce cold bathing into one of our hospitals, we must increase our staff of attendants very materially, which would be, at the high rate of wages in this country, a great expense. Now, if one member of the staff introduces it, and his successor does not carry it out, a serious question is brought into hospital administration.

Dr. Folsom has followed the spleen so very carefully in his cases that I should like to ask him if his experience bears out the opinion expressed by many of the Germans, that a failure of the spleen to subside at or about the period of defervescence indicates a danger of relapse; and also if he has any explanation to give for his singularly fortunate freedom from relapse. Relapse was frequent in the three years in which I analyzed my personal cases. It occurred in sixteen per cent. of the cases.[2] I should be very glad to know how to prevent that lengthened period of the disease.

DR. FOLSOM: There happened to be no relapses during my service this year, and I have not had an opportunity to make such observations with reference to the spleen. This freedom from relapse is, perhaps, largely due to the same cause that made my mortality 3.51 per cent. in one year and 12.35 in another, that is the type of cases. There have been relapses in some of the cases reported since I left the hospital. Relapses to a degree are a question of definition and of terms.

With regard to the regularity or irregularity of the subsidence of the spleen in the latter week of the fever and during convalescence, I think there is no sort of rule with regard to it. Quite a number of my patients sat up while the spleen was quite large, and in quite a number the spleen had returned to the normal size before I allowed them to sit up. I have not tabulated cases or made notes enough to make them valuable on that point.

DR. A. POST reported

FOUR CASES OF ANEURISM, OPERATED ON BY THE OLD METHOD.[3]

DR. D. W. CHEEVER: I have very little to say except to express my gratification. I recall two cases in which this method was used in former years, once by Dr. Thorndike and once by myself. Both cases terminated in recovery; but in both cases there was suppuration in the sac after the contents were turned out and the vessels were tied. It is an extremely rare and fortunate coincidence to have so many cases, it probably will not happen again for a long series of years. It was on account of the dread of suppuration and the giving away of the artery that Mr. Hunter gave up the old method of Antyllus and tied the vessel at a great distance from the sac. My case had been treated for abscess, and an incision had been made into it before the mistake was revealed; the child came very near dying before the hæmorrhage could be arrested; but she finally made a good recovery, saving the limb, and losing only two toes by sloughing.

The Society then adjourned at 9.45 P. M.

Subsequently to the meeting, the following were chosen members of the committee on nominations: Drs. F. W. Draper, F. Minot, F. I. Knight, T. M. Rotch, M. Prince.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

BY F. B. HARRINGTON, M.D., SECRETARY.

REGULAR Meeting, Monday, November 11, 1889, the President, DR. W. L. RICHARDSON, in the chair.

DR. MORTON PRINCE showed a patient with a second attack of

TRAUMATIC NEUROSIS,

having recovered from the first.

[2] And has this year been frequent enough at the Massachusetts Hospital.

[3] See page 576 of the Journal.

I have here a case which I consider of exceeding interest from many points-of-view. It is a case of functional paralysis following injury or so-called traumatic neurosis. I saw this man first about two weeks ago when he gave me the following history: About five weeks previous to that time, while standing on the steps of a horse-car which was going round a curve with considerable speed, he was thrown off striking on his back and shoulder. He was stunned and remained in that condition about five minutes. He was then taken to the Massachusetts General Hospital where his injuries were attended to. His knee was somewhat badly injured and possibly his arm. His leg was put in splints and bandaged. He was sent to his home where he was confined to his room about ten days. He then got up and went about, but was in a poor condition. Two days before I saw him he tried to go to work. After working a half day he was obliged to give up, and appeared at the City Hospital. At that time he complained of (and his symptoms now are about the same) paralysis, pain in the small of the back and right knee and weakness of his arm; also of decided numbness and loss of sensation in the left leg as high as the lower third of the thigh and in less degree over most of the body. On careful examination I found this anæsthesia was entirely subjective, that there was no real objective loss of sensation. There was, however, a very marked paralysis or paresis of both arms, that is, the grasp of his hands was almost nil — as measured by the dynamometer which is an old one — about twenty with each hand. I sent him to the hospital where he has been under Dr. G. B. Shattuck's care. He has been very carefully watched as I thought there might be some question of malingering. Careful observation, however, fails to show this.

The cardinal symptoms of this case are paralysis of his hands and increase of the left knee-jerk, the right knee-jerk remaining normal. The grasp in the right hand has improved, and is now seventy by the dynamometer. The left knee-jerk is still increased. Particularly noticeable in this case were vaso-motor changes in the hands. They have had a purplish cyanotic hue.

There is also some question as to whether there may be slight wasting of the smaller muscles of the right hand. It is not marked, but it is suspicious that there is a slight difference in the appearance of the two hands. He is left-handed, and the difference is probably either physiological or an old affair. This case is interesting not only from the point-of-view of diagnosis, but in respect to prognosis. To my mind this is a case of functional disease and I believe the prognosis is good. This view is strengthened by the previous history. It appears that six years ago he had quite a severe injury. He was kicked in the mouth by a horse and knocked unconscious, and following that injury at that time exactly the same train of symptoms developed as follows this second injury. He gradually improved; all the symptoms disappeared; and he was able to resume his work. Both his injuries had a largely psychical side to them.

He walks with a limp and uneven gait which perhaps might be mistaken for ataxia, but this is due to weakness of the right knee. He complains of pains about it and of pains about his back. He was struck on the right side.

You will note the resemblance between this case and the one I described at the last meeting of the Medical Observation Society. In each case there are present an increase of the left knee-jerk, paralysis and pain. The paralysis in the other case, however, was more general, while this is more localized, although I think it was here more extensive to start with. In the former case it was also thought to be organic disease and not functional.

Dr. Geo. B. Shattuck: I have nothing special to add to what Dr. Prince has said about the case. It was somewhat complicated by the fact that he had been in the hospital after his previous accident and was in the same service that he is in now. He was examined pretty carefully then and the various symptoms and signs were tested and recorded a number of times and he had an opportunity to learn to a certain extent what was expected from this course of examination; so that when he came in again it made it a little more suspicious with reference to the question of malingering. He knew more about reflexes and knee-jerks than the ordinary patient would know or learn in a short time; but he has been under observation a good while, and I should think we might fairly rule that out. On the other hand he has improved to such a degree that one would be less inclined to consider the symptoms as due to any serious central lesion. I should think the chances are at present that the diagnosis which Dr. Prince favors would turn out to be the correct one. I might add that when he came in his general constitutional condition was somewhat below par. He has had alcoholic habits and that has had to be taken into consideration, but in all the examinations that have made been of him the symptoms have been constantly the same. There has always been this difference in the knee-jerks, and there is some exaggeration of the reflexes of the arms and the vaso-motor paresis has always been very marked, much more so than now, and those are things one cannot simulate.

Dr. C. F. Folsom: I saw this case before there was any marked improvement and I was in doubt whether it was functional or a diffuse myelitis. I was rather inclined to think it was diffuse myelitis, but the marked improvement in the symptoms would rather indicate that it is a functional trouble. I suppose we shall have to wait a little while before we can be certain.

Dr. J. C. White reported cases of

SOME UNUSUAL FORMS OF DERMATITIS VENENATA.[1]

Dr. F. B. Harrington: Within two weeks I was called to see a patient whom I found covered with rash from head to foot. I at first supposed it was measles, but there were none of the other symptoms of measles. I noticed that the odor of the breath was very bad indeed. I was not able to get any statement of any recent application of anything which could have caused the eruption until after a good deal of questioning when I found that four or five days previously he had rubbed himself from head to foot with unguentum hydrargyri. Somebody had told him to use it for pediculi. The eruption had not appeared for this length of time. He had a very marked stomatitis. The itching was very intense and the suffering great. Under appropriate treatment the symptoms quickly disappeared.

Dr. O. K. Newell reported a

CASE OF STONE IN THE BLADDER.[2]

[1] See page 583 of the Journal.
[2] See page 581 of the Journal.

DR. C. B. PORTER: Dr. Newell suggests something very valuable to the surgeon — the ability to carry about such a battery. The trouble has been before that a carriage has been required. I would like to ask whether the small battery is strong enough for the Paquelin, and also whether Dr. Newell has had any experience with scorching the bladder.

DR. NEWELL: The small battery will run the light about twelve hours, and twenty to twenty-five minutes would be the extreme limit of an examination. I think it would not do for Paquelin's cautery.

Once in a case of a very large tumor of the bladder, and a number looking at it, the light suddenly went out, and I noticed charred tissue on the end of the instrument. I thought there would be pretty serious symptoms, but there were none. When I notice a change in the light I at once open the circuit, and thus avoid trouble.

DR. F. S. WATSON: To those who are in the habit of using a cystoscope much, as I am, such a battery as Dr. Newell presented to-night is a perfect blessing. The slopping about of the chromic acid solution over carpets, hands, etc., has been a drawback in the use of instruments before. This battery solves the problem in the neatest and most compact form I can imagine.

I would like to say one or two things in regard to Dr. Newell's remarks on evacuators, modifying the criticisms I made when he first showed the instruments last year. It struck me at that time that there were some very strong things in favor of his evacuator as compared with that of Dr. Bigelow. I was convinced that in the average case of stone, the shortening of the urethra, by folding the penis upon itself, and the shortening of the evacuating tubes which this allows, would be of advantage. Another thing he did not bring out, ought to be mentioned I think, and that is his stop-cock, which I think is much more neat and easily managed than the Bigelow evacuator where you have to stop and take the hands off.

What he says about there being no need of a trap to the evacuating bulb, is undoubtedly true, and has been demonstrated already in the evacuator of Otis, which I think is an admirable one.

I prefer the original point of Dr. Bigelow's evacuating tubes to the sharp ones on Dr. Newell's instruments, which I do not consider so safe or so easily passed into the bladder. In certain cases; namely, those in which there is prostatic hypertrophy, Dr. Newell's tubes are, I believe, too short, so that one should always have one or two longer ones in one's set of evacuating instruments. In ordinary cases without hypertrophied prostate the short tube will do.

DR. NEWELL: I think there is a difficulty that will be in all of the instruments until some one here gets a better cement. The great trouble in this country in having evacuators made is that there is not a manufacturer who can furnish a decent specimen of rubber.

One point I forget to mention is that these tubes with my orifice work beautifully in children. In one case I found the introduction of this tube difficult, and it seemed as though in that case I would have liked Dr. Bigelow's point better, but in children I think it a great advantage to have a short canal. There we have no prostate gland, perfectly smooth bladder cavity which distends nicely, and if properly distended offers no chance for aspiration of the bladder-wall.

In connection with storage batteries our unfortunate tariff makes the price of this battery forty or fifty dollars. The duty is over fifty per cent. Also with my endoscopic instruments, ninety dollars duty was demanded.

DR. J. C. WARREN: One thing suggested by this discussion is the principle on which the different operations for the removal of stone were founded. In the first place the difficulty with the old operation for removal of stone (lithrotrity) was that inflammation was caused, a cystitis which might prove fatal, by the instrumentation. That was the theory in Civiale's time. When Dr. Bigelow invented his litholapaxy, he supposed the danger was in leaving fragments of stone in the bladder. It seems to me the more modern view would be that the danger was in the sepsis of the bladder. If perfect asepsis can be preserved in certain cases — cases like the one Dr. Newell described, where there was a clean stone in a clean bladder — it seems to me as if the method which Sir Henry Thompson proposed, carried to its extreme point might possibly be carried out with impunity, that is, frequent washings-out of a little at a time without ether, provided perfect asepsis be preserved. The patients could go about as before without the disadvantages of taking ether.

In other cases of old and feeble individuals who have perfectly aseptic genito-urinary tracts, a much less formidable operation would be one which would enable you to do less at a time provided you could keep up asepsis in that part of the body. I have an idea that when we are a little further advanced there will be a swing of the pendulum in that direction, a return to multiple operations in certain cases.

DR. J. J. PUTNAM showed

A NEW APPARATUS FOR DIRECT TRANSFUSION.

Dr. Putnam alluded to a case in which direct transfusion had been twice tried. The patient improved after each operation, but, as frequently happens in these cases, several very objectionable symptoms showed themselves. The patient had ecchymoses in the skin and hæmaturia, and after one of the operations, a single sharp chill with rise of temperature.

I know very well that the operation of direct transfusion is now not considered as nearly so important as it formerly was. It is found that transfusion of salt solution, certainly where the loss of blood has been due to hæmorrhage, does just as much good by raising the blood tension. Nevertheless, the attempt is constantly being renewed, to introduce blood in various ways into the system for its nutrient value. One reason, perhaps, why the operation is not more successful is because of the faultiness of the method employed.

The apparatus ordinarily used is Aveling's, and the following are some of the objections to it: (1) During the whole time the blood must be at rest in one or the other half of the tube, namely, in the half where the stop-cock is closed, thus affording abundant opportunity for coagulation to take place in the opening of the canula and neighborhood of the bulb. (2) The apparatus is used over and over again, and every one knows how difficult it is to keep any complicated apparatus surgically clean; and it is not improbable that, from time to time, septic material may be thrown into the vein of the patient, and this may, in part, account for the chills and rise in temperature.

These dangers could be in great measure obviated by the apparatus which Dr. Putnam then showed and explained.

This consisted in two parallel tubes of rubber, connected at each end to a Y-shaped canula, and provided with suitable clasps for shutting off the current.

One of these tubes was intended to convey the blood, while the other formed a reservoir (which could be refilled, if necessary, through a T-shaped tube) for a warm solution of salt or phosphate of soda.

After inserting and attaching the canulas, in the usual manner, the current of blood can be allowed to flow continuously, and can be encouraged by a simple roller, or by the finger.

From moment to moment, the tube containing the salt solution can be pressed with the finger, and the blood passing through the canulas kept liquid.

Both the blood current and the salt solution could be kept warm by hot cloths, frequently renewed, laid over the tubes.

Further, each canula, besides its principal opening, had near the point a counter opening, allowing of a passage of blood through the vein in the normal manner, and thus preventing stasis.

Dr. F. B. Harrington: The Aveling apparatus is quite unsatisfactory. I have used it twice. I think this apparatus of Dr. Putnam will prove to be superior to it.

Dr. O. K. Newell: I happen to have translated Professor Mikulicz's book on "The Relative Value of the Infusion of Salt Solution and the Transfusion of Blood," and I must, therefore, say that in the light of recent investigation, I think the transfusion of blood unjustifiable. It is impossible, as has been demonstrated by experiments, to introduce blood so that it will be kept in a state corresponding at all nearly to that in which it leaves the artery or vein, in whatever manner the transfusion is done.

Dr. F. B. Harrington: In such a case as the one Dr. Putnam speaks of [pernicious anæmia] the transfusion of salt would be of no value. I have used the intra-venous injection of salt solution repeatedly in cases of severe hæmorrhage, and regard it of great value. To have used it in this case would have been folly. That there are dangers in the transfusion of blood is unquestioned. I very much doubt if it can be shown that transfused blood is entirely without benefit. Clinical evidence, as in this case, would seem to prove the contrary. Theoretically it would seem to be possible to transfer the blood from one person to another with advantage to the recipient. We are able to transfer other tissues, and I believe that we should not give up entirely the transfusion of blood.

Dr. Newell: I am absolutely sure that no apparatus, as complicated as this very beautifully working one of Dr. Putnam's, could possibly do it. The main point is that all physiological investigations show that you can't put the blood of one individual into another without its becoming almost entirely disorganized. It has been supposed that the only value of transfusion has been in increasing blood volume, and that is why the infusion of salt solution has done all the good that transfusion ever did in its whole history. Physiologists tell us that the blood of different individuals differs, and that when transfused, it is disorganized *in toto;* so that the object you are trying to accomplish is out of the question. Because bone-grafts and skin-grafts "take," I think we have no reason to think we can transfuse blood successfully, since every experiment is against it.

Dr. Putnam: I do not wish to be understood as advocating direct transfusion of blood. I know transfusion of salt is considered just as good for restoring arterial tension, but it is not long since, in Germany, and probably with the full knowledge of all the experiments, Ziemssen advocated the subcutaneous injection of defibrinated blood, and, unless I am mistaken, the matter has been taken up clinically recently.

It seems as if there were cases where it could be done as a matter of last resort; and if tried, it should be tried under as favorable circumstances as possible.

Dr. Newell: With regard to the subcutaneous injection of blood, you have a wholly different matter. That would be merely the subcutaneous injection of an albuminous fluid, which could be absorbed, as all subcutaneous injections are in the areolar tissues by the capillaries, without going directly into the circulating blood current.

In regard to the salt solution, there you inject a solution which is not decomposed, and can't in any way injuriously affect the blood. It is an aqueous solution with no injurious properties. The objection that all authorities make to the transfusion of blood is that the blood transfused is invariably decomposed, disorganized, and you thus introduce into the circulation injurious and toxic elements.

Dr. Putnam: I think there are two things to be said in reply to Dr. Newell's argument, of which I acknowledge the importance. In the first place, I feel very certain that Ziemssen asserted that the number of blood globules was increased after the injections, so that he believed that the blood globules entered the circulation in the living state. In the second place, with regard to introducing toxic substances, I think it may be, and undoubtedly is, true that that occurs, and although it did occur in this case, yet I feel perfectly certain from watching the patient, that that did not contribute materially to the patient's death, which was imminent, and occurred after a short time. The immediate effect of the operation was to revive the patient; and although after one of the operations a chill occurred, still it was only once and did not seem to have any permanently unfavorable effect.

Dr. J. C. Warren: There is a well-known experiment, that if you bleed a rabbit and allow the blood to coagulate, and press out the clots so as to get all the fluid from it possible, and reinject the fluid into that animal, he will die, after a very short time, with symptoms of acute toxic poisoning, and the agent supposed to bring that about is the fibrin ferment liberated from the corpuscles during the process of coagulation, and the liquid reinjected goes to work and liberates all the other fibrin ferment left in the circulation, and decomposes it to the extent that coagulation occurs and embolism of the pulmonary artery and various other vessels of the body. I don't know whether that would hold good in a case of transfusion where the human blood had been allowed to coagulate. Since reading that experiment, it has been a matter of curiosity to know whether that method by which blood was defibrinated and then injected into the circulation, was followed by toxic symptoms, by fibrin ferment poisoning, if you choose to use that term. I think that that experiment would militate very strongly against blood transfusion, certainly where it was defibrinated.

Dr. Harrington: I think we have clinical cases of undoubted benefit; and there is no proof that the corpuscles do not live a certain time and do a certain amount of good. With improved methods we may get greater benefit.

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ANGINA PECTORIS AND THE TRUE CARDIAC NEURALGIAS.

THERE is a form of cardiac pain which is always of bad prognosis, because indicative of organic and generally incurable lesion. It was first correctly described by Rougnon, and nearly simultaneously by Heberden in 1768; it was afterwards called Heberden's disease, though Heberden gave it the name of *angina pectoris*, the word *angina* being indicative of the peculiar anguish accompanying the attack. Seneca, who appears to have been a sufferer from angina pectoris, speaks in one of his letters of the suddenness of its invasion, which he compares to the impetuousness of a tempest (*brevis impetus, procellæ similis*); and he adds that the predominant sensation is one of anguish as of impending death.

This kind of cardiodynia has its seat in the terminal cardiac filaments of the pneumogastric nerve, and is due to ischæmia of the heart muscle. The old theory was that angina pectoris is a primary or symptomatic neurosis of the cardiac plexus. This is denied by the best recent authorities, who compare the pain to that attending gangrene from occlusion of an artery.

"Let us suppose," says Germain Sée,[1] "that the myocardium receives less than its normal quantity of blood; the terminal extremities of the vagus will receive less also. Now oligæmia of a sensory nerve manifests itself by pain. This oligæmia also accounts for the pecular distress, the *angor*."

Huchard, in a recent work on arterio-sclerosis and the arterial cardiopathies,[2] which is the most complete by far that has yet appeared, sums up the numerous anatomical and other theories, and gives weighty reasons for the view, which he holds in common with Balfour, Kreysig, Tiedemann, Potain, Parry, Liegois, Sée and others, that true angina pectoris is always dependent on lesions (sclerosis, thrombosis, atheroma, sometimes, however, spasm) of the coronary arteries, with ischæmia of the myocardium. The ordinary lesion is arterio-sclerosis, which is sometimes of toxic origin (diathetic, alcoholic, nicotinic), sometimes a senile degeneration.

There is an angina pectoris which ends almost always in sudden death; there are other kinds of cardiodynia, quite as distressing, which almost invariably terminate in recovery. The latter are functional and nervous. Huchard ranges the latter under the head of false angina pectoris (pseudo angina); they constitute the true neuralgiæ of the heart.

Huchard divides the peculiarly neuralgic forms into three classes: the neurotic, the reflex and the toxic. He formerly added a fourth, the diathetic; but, he is now convinced that this, as a separate class, has no *raison d'être*.

(1) The neurotic is that painful condition of the cardiac innervation which has its origin in the state of the nervous system accompanying hysteria, neurasthenia, hypochondria, exophthalmic goitre, spinal irritation, neuro-arthritism, and (according to some authors) epilepsy.

(2) The reflex form, of peripheral or visceral origin, takes its point of departure in some distant irritation, as of the stomach, uterus, etc., which is reflected on the cardiac plexus. Huchard, under this head, gives instances of reflex pseudo angina accompanying intercostal neuralgia, painful peripheral excitation of the nerves of the extremities, neuromata, and neuralgia of the left arm.

(3) The toxic form, is perhaps, oftener caused by tobacco than by any other agent, and this (the nicotinic) is given as the typical toxic species, though cases have been referred to tea, coffee and alcohol. There is a functional cardiodynia from tobacco-smoking, relatively benign, resulting from spasm of the coronary arteries; this Huchard calls *spasmo-nicotinic angina*. There is another kind, also due to abuse of tobacco, which is dependent on arterio-sclerosis; he calls it *sclero-nicotinic angina*.

The following table from Huchard, gives the principal distinctive features of the true and spurious anginæ:

TRUE, ARTERIAL ANGINA PECTORIS.

Anatomical Cause. — Aortitis, with obliteration of the coronary arteries. Sclerosis, with constriction or obliteration of the coronaries. An arterial affection.

Symptoms. — Pains almost always paroxysmal, not permanent, provoked by walking, emotional excitement, effort. Rarely periodical and nocturnal attacks. Cardiac pain isolated from other neurotic symptoms. Agonizing pain, with sensation of compression as of a vise. Pains of short duration, ceasing with repose. Sub-sternal seat of the pain, generally over the aorta.

Attitude of the Patient. — Silence, arrest of all movements, the pain ceasing with absolute rest. No painful points, but the latter may be present when true angina is complicated with cardiac and phrenic neuritis by propagation of the peri-arteritis to the plexuses of nerves in the vicinity. Often sub-sternal anguish without pain.

Prognosis. — True angina pectoris is almost always fatal.

Treatment. — Arterial medication. Revulsives of no account.

FALSE, NEURALGIC ANGINA.

Anatomical Causes. — Aortitis, with neuritis of the cardiac plexus. Hyperæmia of the cardiac plexus. Neuralgia of the

[1] G. Sée: Maladies du Cœur, 2d ed., 1883, p. 30.
[2] Huchard: Maladies du Cœur et des Vaisseaux, etc. Paris, 1889.

cardiac plexus. A neuralgic or neuritic affection. Often (as in hysteria) a vaso-motor neurosis.

Symptoms. — Pains less frankly paroxysmal, often periodical, coming on at the same hour (hysterical, neurasthenic, pseudo angina); not provoked by effort, but often caused by cold. Attacks frequently periodical, recurring at fixed hours, and nocturnal. Cardiac pain associated with other neurotic symptoms. Pain less agonizing, with sensation of distention of the heart. Pains of long duration, not ceasing by repose. Seat of the pain often frankly cardiac.

Attitude of the Patient. — Incessant agitation. Continuance of walking; rest brings no diminution of the pain. Existence of points painful to pressure, especially along the tract of the phrenic nerves (neuritis of the cardiac plexus and of the diaphragmatic nerve). Anguish less pronounced, always associated with the pain. Pseudo angina is never fatal, except in cases where the cardiac neuritis is associated with coronary sclerosis.

Treatment. — Anti-neuralgic remedies. Revulsives often beneficial.

REFLEX, NEURALGIC, PSEUDO ANGINA PECTORIS.

A nervous affection.

Symptoms. — Attacks spontaneous at times, but often provoked by movements of the left arm, and by pressure over the painful nerves. Depends on some other peripheral neuralgia, on gastric or other visceral disorder. Is observed at all ages. Attacks last long; are not provoked by effort. The primary neuralgic, or the visceral affection, makes itself conspicuous. Pain generally precordial, not sub-sternal. In gastric pseudo angina, signs of dilatation of the stomach often accompanying. Prognosis benign, never terminates in death.

Treatment. — Revulsives, calmatives, anti-neuralgic remedies, anti-dyspeptic remedies.

TOXIC, PSEUDO ANGINA, FROM TOBACCO. (Generally by Spasm of the Coronaries.)

Symptoms. — Attacks of cardiac angor associated with other phenomena of a toxic kind; vertigo, gastric and respiratory troubles, etc. Accompanying heart-troubles; palpitations, intermittences, arythmia, lepothymia, etc. Attacks last long; are generally spontaneous, rarely provoked.

Prognosis. — Rapid recovery, on suppression of the toxic cause.

Huchard gives an exemplification of the difficulty under which the clinical observer must sometimes labor in diagnosticating the affection. "In gout he may have thoracic angor under three conditions: (*a*) it is either a true angina, arising from an arterial lesion (arteriosclerosis, atheroma of the coronary arteries, lesions of the aorta, etc.) to which gouty persons are always predisposed; or (*b*) gastric troubles, frequent in gouty patients, may provoke attacks of false angina pectoris which may terminate in recovery; or (*c*) the angina pectoris may be a neuralgic attack, such as gouty neurasthenic invalids are prone to."

In true angina pectoris, the leading indication is to remedy the cardaic ischæmia which causes the pain. This indication can be only partially met by the so-called vaso-motor dilators, — nitrite of amyl (two or three drops to be inhaled from the open palm); nitroglycerine (frequent drop doses of the centesimal dilution); and iodide of sodium, which, according to Huchard, should be given in ten-grain doses three or four times a day for a long time. Hypodermic morphia seems to favor the capillary circulation, as well as allay nervous irritation, and will be often demanded in severe paroxysms. In the pseudo forms, the general anti-neuralgic and revulsive treatment will be called for, due attention being given to the cause, whether peripheral, visceral, or toxic.

VITAL AND MEDICAL STATISTICS.

DR. BILLINGS chose as his subject for the Cartwright Lectures this year a timely and most important discussion, in view of the preparations for the enumerations for the next United States census, on Vital and Medical Statistics, including their relations to each other, and to scientific and practical medicine and sanitation. While admitting their imperfections, he emphasizes the essential point, that those least familiar with them distrust them most, but that, as familiarity with their use and methods reveals the fact that in dealing with large masses of figures, many errors tend to neutralize each other, their real value is recognized. Too much, moreover, is expected of statistics, whereas they furnish to those expert in handling them, chiefly a basis for estimating probabilities, rather than scientific exactness.

The United States, being the great mixing ground for the different human races, offers unique opportunities for the study of the science of heredity, but the mixture is rapidly becoming very intricate with its influence in preserving the best types or debasing the race, as the case may be. To determine these and less complex questions of the influence of locality, etc., on the public health, the willing co-operation of physicians is required, and we commend to them a careful perusal of Dr. Billings's suggestions in this respect.

As regards local registration of mortality returns, a fairly satisfactory system obtains in our country only in Massachusetts, New Jersey, a greater part of Connecticut and New York, a large part of Alabama and Minnesota, and most of the large cities. For the rest of the United States, we depend at present upon the decennial census, and hence the importance of making it as full and accurate as possible.

In the next census, more than the usual attention will be paid to nice sociological points and to the elimination of sources of error, so that we may expect results correspondingly interesting and useful in preventive medicine.

Dr. Billings lays great stress not only upon the collecting and record of vital statistics, but also upon another fully as important point to which his attention is constantly directed in the great medical library in Washington, namely, a sufficient knowledge of the scope of medical statistics to enable one to use them scientifically and not draw too hasty generalizations. "Making figures lie," is equivalent to not understanding them, in the vast majority of cases, and unfortunately a great deal of that sort of interpretation is indulged in. Too much precise statement is made where we can obtain only a sufficient degree of probability to guide our action, and by overlooking the differences in conditions which seem analogous, erroneous conclusions are often drawn as regards such vital questions as the influence exerted upon health and life by race-characteristics, residence in a given locality, by marriage, occupation, social standing, etc.

When we come to considering how much of the death-rate is necessary and unavoidable; how much is due

to causes which may be modified or done away with; how far it is influenced by medical treatment in vogue at various times, a study of the science of medical statistics should precede an attempt to apply them; and these lectures of Dr. Billings will furnish a long-needed means to the medical profession of getting all the essentials of the subject in a compact form.

THE NEW YORK ACADEMY OF MEDICINE AND THE HEALTH DEPARTMENT.

AT the meeting of the New York Academy of Medicine, held December 5th, Health Commissioner Joseph D. Bryant read a report on the Health Department and the Conference Committee of the New York Academy of Medicine. This committee was appointed some two years ago at the suggestion of Dr. A. Jacobi, then President of the Academy, in furtherance of the idea that such co-operation on the part of the Academy would be for the mutual advantage of the Board of Health, the Medical profession of the city, and the community at large.

Dr. Bryant presented many facts and figures to show that much good had resulted from this collaboration and stated that in contagious diseases the benefits of the joint work were especially noticeable. In the course of his paper he called attention to the necessity for greater facilities for the management of contagious diseases among well-to-do patients and strangers visiting the city, and spoke particularly of the importance which this matter might assume if the World's Fair of 1892 was held in New York.

MEDICAL NOTES.

— Ground has just been broken for the new Home for Incurables on the grounds of the Episcopal Hospital in Philadelphia. The building will cost $175,000 which sum has been given by Mr. C. C. Harrison, as a memorial to his father. There is to be an endowment fund of $400,000 toward which Mr. Harrison has contributed an additional $100,000.

— The long standing differences between the faculty of the Montreal School of Medicine and the Medical Faculty of Laval University of the same city, have been referred to the Pope as arbitrator, much to the annoyance, it is stated, of his Holiness, who thinks the Canadian doctors a quarrelsome lot who ought not to trouble him with their controversies.

— During the great typhoid fever epidemic at Plymouth, Pa., in the spring of 1888, which carried off hundreds of people, the Plymouth Water Company were held responsible for the outbreak of the fever, and suits for damages were instituted against the organization by the relatives of the victims. A test case was called for trial for the first time. December 10th. Mr. Buckingham, who lost two children, is the plaintiff. He claims $10,000 damages. The company has an able array of counsel.

— The only dental and pharmaceutical college in the United States devoted entirely to the colored people was dedicated at Nashville, Tenn., November 30th. This building is the new dental and pharmaceutical addition to the medical department of the Central Tennessee College. It is the second of the medical department buildings and the tenth of the college.

— Among a series of begging letters which Miss Eastlake publishes in the *New York Sunday World*, occurs the following:

"DEAR MISS EASTLAKE: — Having read of your great charity in the *World*, I turn to you for help. I am twenty-nine years old, graduate of a training-school for nurses, and have the care of an invalid mother and little sister. I have no employment, no means, and neither fire nor provisions for the winter. If I could fee the doctors, they would secure me appointments among their wealthy patrons. Unfortunately I am poor. If you can help me in any way, I shall be grateful to you all my life."

— Some of the teachers of practical anatomy in Philadelphia report a stringency in the supply of "material," which they ascribe to the high license laws under which it is not so easy for bummers or tramps to drink themselves to death. Hence the number of those found dead in the inclement season diminishes, and the medical schools suffer.

— Dr. Lewes Meisberger, of Buffalo, a successful physician, died in that city on Monday last, and in his will left $500 for a funeral feast for his friends, which took place Wednesday. Champagne and oysters were the leading courses of the entertainment, and over two hundred people took part in the banquet. A free concert was also provided in the programme.

BOSTON AND NEW ENGLAND.

— Among other things that the grand jury of Suffolk County, which made its report December 7th, has looked into, is the condition of the public institutions at South Boston and Deer Island. They find that the inmates at both institutions are idle a great part of the time when they should be employed, and the jury recommend that the mayor petition the legislature for authority to take such action as will result in keeping the inmates at work; such authority to include power to make contracts for their labor if necessary. The jurors find that the cells at the House of Correction at South Boston are too small, the ventilation bad, the sanitary arrangements antiquated and dangerous and the buildings wholly unsuitable for their present use. The jury recommends that the buildings be either torn down or sold, and the institution removed to Long Island, new buildings to be erected at the latter place for the accommodation of the prisoners.

— The ambulance corps of the first brigade, Massachusetts Volunteer Militia, competed at their armory at Lowell on Thursday evening, December 5th, for prizes offered a year ago by the Surgeon-General of the State. The prizes were two in number: for the best extemporized appliance (1) for a fractured thigh and (2) for either a fractured upper arm or leg. The trial was made under the following conditions: Such

material only was to be used as might be picked up on a battle-field, with the bandages, etc., carried by the corps, and no tools were to be used save such as are provided by the State, with the addition of a hatchet or an axe. Plaster casts of legs and arms were provided for the application of the apparatus. The collection was a most instructive one, and gave evidence of ingenuity on the part of the young men of the corps, as well as interest in the work. As a study of first aid to the injured, it was worthy of professional attention.

— The annual meeting of the directors of the Mary Fletcher Hospital, of Burlington, Vt., was held December 4th. These officers were elected: President, Walter Carpenter; Vice-president, M. H. Buckham, Secretary, L. G. Ware; Treasurer, T. E. Wales; Auditor, Henry Greene; Warden, V. G. Barbour; Secretary of the Prudential Committee, G. W. Wales; Financial Committee, Walter Carpenter, T. E. Wales and Henry Greene.

— William S. Simmons, Connecticut State Inspector of Factories, has presented his first annual report to the governor. During the five months that he had served, Mr. Simmons has inspected 255 buildings and factories, which employ 42,089 persons or about one-third of the manufacturing population. Of these places, 128 were found in excellent condition, and 127 had faults which need to be remedied. In all, 206 changes were ordered. He calls attention to the fact that the condition of many closets in the factories of the State is shameful.

NEW YORK.

— A hippopotamus was born in the Central Park menagerie on the night of December 1st; and this is said to be the first instance of an event of this kind in this country. Unfortunately it died on the 6th of pneumonia.

— Two other deaths from electric light wires have occurred. While Henry Harris, a clerk in a dry-goods shop on Eighth Avenue, was, with another employee, carrying a large show-case in from the sidewalk, an imperfectly insulated electric light wire which ran to an arc light suspended in front of the store, sagged down low and came in contact with the metal of the show-case killing him instantly. A day or two later a lineman was killed while at his work.

— A Swedish disciple of the Faith Cure has been arrested in Brooklyn charged with refusing to give medicine to his three-year-old child suffering from diphtheria and with exposing others to a contagious disease. The child was attended by Dr. Prendergast of the Society for the Prevention of Cruelty to Children, but the father would not administer the remedies prescribed and since his arrest it has been cared for by the Charities Department.

— The Babies' Hospital which was organized some three years ago, was formally inaugurated with religious exercises on the 6th of December. It is situated on the corner of Lexington Avenue and 55th Street, and is the only institution where infants are exclusively cared for. Special features of its work are the training of young girls for children's nurses and a post-graduate course for instructing trained nurses in the special nursing of sick children.

— Mr. C. F. Allan, President of the Commission in charge of the improvements on the quarantine islands in the harbor, in company with the architect and a number of officials recently made a visit of inspection to the islands and found the work progressing satisfactorily. It is not believed, however, that the $268,000 appropriated by the legislature will be sufficient to complete all the improvements contemplated, and an additional appropriation will be asked for at the coming session of the legislature.

— On the 6th of December there was organized at the Hotel Cambridge the "Association of Life Insurance Medical Directors of America," with the following officers: President, Dr. J. M. Keating, of Philadelphia; Vice-presidents, Drs. G. W. Russell and Lewis McKnight; Secretary, Dr. Frank Wells; Treasurer, Dr. J. W. Brannon. The object of the Association is stated to be "the promotion of medical science as applied to life insurance by the personal intercourse of the members, presentation of papers, discussions and such other methods as may be found desirable, and also the encouragement of social and personal relations between its members and the advancement of the general interests of life insurance."

— At a meeting of the Section on Public Health, Hygiene and State Medicine of the Academy of Medicine, held December 6th, Dr. Frederick Peterson read a paper on "The Colonization of Epileptics." Stating that for every other defective class some provision had been made, he urged that separate institutions for these unfortunates should be established in the community. Dr. A. Jacobi, in discussing the paper said that the State would probably not provide separate care for epileptics for ten or twenty years yet. If a bill giving the pauper insane a chance to live as human beings were passed next year it would be all that could be expected. "This is not a civilized country," he remarked, "it is semi barbarous." In proof of the assertion he cited the course of the New York Legislature in repeatedly refusing against the most powerful influences that could be brought to bear upon them, the State Charities Aid Association bill for the transfer of the pauper insane from the utterly unfit county institutions to properly organized and conducted State Hospitals.

Miscellany.

RUMINATION IN THE HUMAN SUBJECT.

IN the *London Medical Recorder* for November 20, 1889, Dr. Ireland summarizes the contents of a paper on this curious phenomenon by Dr. Sievers in the *Finska Läkaresällskapets Handlingar*, No. 5, 1889.

This author first gives a *résumé* of the different

opinions upon rumination since 1618 (when Fabricius ab Aquapendente published the first case of this affection) until the present time. He recalls that since the appearance of the classical work by Adrien Dumur on the "Paralysis of the Cardiac Orifice or Merycism," the most recent authors see in this affection a nervous moving of the stomach accompanied by more or less diminution of the tone of the cardiac orifice. He thinks, however, that the true nature of rumination has not yet been thoroughly studied. Like Johannessen, to whom we owe the most detailed examination of this subject, Dr. Sievers says that before drawing any conclusion, the details should be more minutely studied. But while the researches already made do not explain satisfactorily the nature of rumination, they furnish us with very important facts for the therapeutic treatment.

Dr. Sievers publishes three cases of rumination which he observed in private practice at Helsingfors. Besides these, so far as he knows, there are only three other cases of rumination mentioned in Scandinavia and reported by Johannessen in *Zeitsch. für klin. Medicin*, Band X and XII. In the first case described, the patient, aged twenty-seven, who had been a governess and sick nurse, belonged to a very nervous family, though none of them suffered from insanity or any other grave disorder. She had previously enjoyed good health; she always ate very quickly, and did not properly masticate her food. It is now ten years since she commenced to ruminate her food, after a sea voyage lasting from three to four days, during which time she had not defecated, owing to want of convenience. Five, ten, or thirty minutes after eating, the food is collected in little balls in the mouth in order to be subjected to a second mastication. The patient seems quite at ease during rumination. After an ordinary dinner the rumination lasts from an hour and a half to two hours. If she moves about, or even if she is disturbed, rumination begins sooner and is more active. Trying to restrain the process brings on such distress that the patient is compelled immediately to give in. During rumination she prefers to be seated; she leans forward, and at every mouthful which returns she lowers her head.

On scrutinizing the abdomen during the act of ruminating one notices a dimple-like depression under the ribs. This is accompanied by an uneasy sensation passing from right to left. This does not extend farther than about the cardiac orifice. The patient feels a slight shock, and the food returns to the mouth. The stomach was found to be moderately distended with air. There was no retardation of digestion and no excessive secretion of gastric juice: but there was found to be unusual acidity of the contents of the stomach owing to the increased production of hydrochloric acid. No lactic acid could be detected. For this patient Dr. Sievers prescribed a teaspoonful of Carlsbad salts before dinner and supper, and a teaspoonful of bicarbonate of soda after each meal. The diet was to consist of milk, eggs, meat, and a very little bread. Under this treatment there was a gradual improvement; and at the end of five weeks the rumination had entirely ceased, nor did it return after she had discontinued using the alkalies.

The second case was a priest, sixty years old. He had constipation, eructations, and sometimes pain in the belly. The health was otherwise good. He had always ruminated; his father, now eighty-eight, did the same. The process commenced after a meal and lasted from two to three hours. He never tried to stop it, and does not think he could, as it goes on independently of his will. He did not desire medical treatment with a view to remove it.

The third case was a Jewess, thirty-five years old, of a highly neurotic family. Her father also ruminated; and one brother out of the family of nine occasionally did the same. She herself has ruminated from childhood. The food returns of itself. The act causes her no uneasiness, which would not be the case if she tried to resist it. She did not desire medical treatment. The contents of the stomach were found to be very acid.

In *La Psichiatria* (Fasc. III–IV) there is a paper on "Rumination," by Dr. Cantarano. He had opportunities of studying this affection in four idiots, two imbeciles, and three patients deeply demented. No uneasiness seems in these cases to have followed the process. Dr. Sievers, amongst other contributions to this curious subject, refers to the papers of Alt (*Berl. klin. Wochensch.*, 1888, Nos. 26 and 27) and of Boas (No 31 same journal), and in the *Archives de Neurologie* (VII, 1884) the reader will find an interesting paper on "Merycism," by Drs. Bourneville and Séglas.

TREPHINING OF THE OS ILIACUM FOR DEEP ABSCESS OF THE FOSSA.

THE Paris correspondent of the *Medical Press*. November 20th, refers to a paper read recently at the Société de Chirurgie by M. Terrillon, in which are cited two cases in which he had used trephining successfully. The first was that of a young girl (eighteen), who came to consult him for a fistula in the neighborhood of the left superior and anterior iliac spinal process, consecutive to a vast abscess of the iliac fossa for which every kind of treatment was employed in vain. The secretion was very abundant, the general condition of the patient bad, so that when an operation was proposed, it was immediately accepted. A large incision was made along the iliac crest, the abscess was reached, situated between the bone and the peritoneum, with walls greatly thickened with fungus deposit. With the curette these were removed and a counter-opening was made a little over the Fallopian arch, and the usual after-treatment ordered. The patient for a time seemed better, but little by little the fungosities returned, fistulous tracts were established and at the end of five months the condition was as bad as the first day. After another careful examination of the parts, M. Terrillon came to the conclusion that the obstacle to the healing of the purulent cavity lay in the difficulty of bringing such a movable wall as the peritoneum into contact with a rigid osseous wall, and resolved to trephine the bone. For this purpose he made an incision down to the bone three inches above the great trochanter, the lips drawn aside, the periosteum detached with care, and the trephine applied; when the bone was pierced, the cavity was cleaned out as well as possible, and a large drain introduced. Amelioration was very rapid; at the end of a month the patient was much better, and in four months the cure was complete. Another case, that of a young man who was suffering from psoas abscess, was treated in a similar manner and with a like happy result.

Correspondence.

OPEN-AIR TREATMENT OF PHTHISIS.

CAMBRIDGE, December 9, 1889.

MR. EDITOR: — After the paper of Dr. H. I. Bowditch, read before the American Climatological Association, June, 1889, treating of the value of "open-air travel as a curer and preventer of consumption," the following extract from the book of a now forgotten worthy is interesting.

. . . "And I think it is no less obvious, if Exercises be as efficacious as I assert, that it is in our Choice whether a Cough shall run on to a Consumption; that is, I understand, that when a Cough comes to last a Month, and begins to chop in its Indications, to require one while incrassating Medicines, another while attenuating ones: I say, it is high time to look out, and set upon a resolute Course of Riding, that by a Series of Journeys, continued Day after Day without intermission, the obstructed Perspirations may be restor'd, which may then be easily effected," etc. ["Medicina Gymnastica," by Francis Fuller, M.A. The Sixth Edition. London. 1728. The Preface.]

This book is referred to by Addison in the *Spectator*, No. 115. Yours truly, EDWIN FARNHAM, M.D.

NITRITE OF AMYL IN CHLOROFORM NARCOSIS.

SAN FRANCISCO, CAL., November 30, 1889.

MR. EDITOR: — In reading an article on "Death from Chloroform," in your issue of November 21st, I notice the absence of the one antidote on which I most rely, namely, nitrite of amyl. I always keep it ready for use in my office, and carry it with me when I use chloroform elsewhere, and find it of great value, in cases where chloroform does not act kindly, in restoring the heart's functions. In the exceptional cases when cocaine causes faintness and collapse, a few inhalations of amyl quickly restore a normal condition. Sincerely yours,

GEORGE H. POWERS, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 30, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,538	566	188	14.22	15.30	2.70	1.44	4.86
Philadelphia	1,040,245	360	108	13.16	14.84	.56	1.88	8.12
Chicago	830,000	256	120	19.50	7.80	2.34	1.56	12.87
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	152	46	12.24	20.40	.68	3.40	4.08
St. Louis	450,000	—	—	—	—	—	—	—
Boston	413,567	152	39	8.84	17.68	.68	1.36	6.80
New Orleans	250,000	123	32	8.91	16.20	3.24	—	4.05
Cincinnati	225,000	105	—	19.95	8.55	3.80	3.80	8.55
Washington	225,000	75	20	15.96	11.97	—	7.98	5.32
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	15	7	6.66	6.66	—	—	—
Charleston	60,145	27	5	11.11	14.84	7.40	—	3.70
Portland	40,000	11	0	5 09	18 18	—	—	9.09
Worcester	78,292	19	10	15.78	5.26	5.26	—	10.52
Lowell	71,518	23	11	21.75	4.35	8.70	4.35	8.70
Cambridge	65,552	32	10	21.91	12.52	3.13	6.26	12.52
Fall River	62,647	22	5	9.10	27.30	4.55	4.55	—
Lynn	53,334	14	0	7.14	7.14	—	—	7.14
Springfield	40,731	6	4	16.66	16.66	—	—	16.66
Lawrence	40,619	25	8	32.00	12.00	4.00	8.00	20.00
New Bedford	37,253	13	5	30.76	7.69	15.38	7.69	7.69
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	3	0	—	—	—	—	—
Salem	29,011	6	3	—	—	—	—	—
Brockton	28,813	6	0	16.66	33.33	—	—	16.66
Chelsea	28,167	12	0	16.66	8.33	—	—	8.33
Haverhill	26,058	12	1	8.33	50.00	—	—	8.33
Taunton	25,170	—	—	—	—	—	—	—
Gloucester	24,263	11	2	9.09	18.18	—	—	—
Newton	21,553	5	0	20.00	20.00	—	—	20.00
Malden	19,774	3	1	—	66.66	—	—	—
Fitchburg	17,534	2	1	—	—	—	—	—
Waltham	17,332	4	3	25.00	75.00	—	—	25.00
Pittsfield	15,502	2	1	—	—	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	0	0	—	—	—	—	—
Quincy	13,728	1	1	—	—	—	—	—

Deaths reported 2,063: under five years of age 631; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 296, consumption, 293, acute lung diseases 244, diphtheria and croup 147, typhoid fever 43, diarrhœal diseases 43, scarlet fever 23, whooping-cough 11, cerebro-spinal meningitis 10, malarial fevers 10, erysipelas 6, measles 3.

From scarlet fever, Philadelphia 9, New York 8, Chicago 3, Baltimore 2, Pittsfield 1. From whooping-cough, New York 6, Chicago and Cincinnati 2 each. Baltimore 1. From cerebro-spinal meningitis, New York, Cincinnati and Washington 2 each. Chicago, Nashville, Chelsea and Gloucester 1 each. From malarial fevers, New York 5, Baltimore 3, New Orleans 2. From erysipelas, New York 5, Chicago 1. From measles, New York 3.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,555,406, for the week ending November 23d, the death-rate was 18.2. Deaths reported 3,334: infants under one year of age 803; acute diseases of the respiratory organs (London) 328, measles 74, scarlet fever 72, whooping-cough 61, fevers 55, diphtheria 50, diarrhœa 40, small-pox, (Liverpool) 1.

The death-rates ranged from 8.6 in Brighton to 30.7 in Plymouth: Birmingham 18.0, Bradford 23 8, Derby 12.7, Hull 20.1, Leeds 22.6, Leicester 16.6, Liverpool 18.5, London 16.5, Manchester 24.7, Norwich 17.1, Nottingham 16.9, Sheffield 18.2 Sunderland 26.0.

In Edinburgh 20.3, Glasgow 24.0, Dublin 24.2.

The meteorological record for the week ending Nov. 30, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps: –

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.		Velocity of Wind.		State of Weather.[1]		Rainfall.	
Saturday, Nov. 30, 1889.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ..24	30.16	45.0	51.0	39.0	69	63	66.0	W.	S.W.	16	14	C.	O.		.0
Monday, ..25	30.21	46.0	50.0	42.0	72	58	65.0	S.W.	N.W.	9	18	O.	O.		.0
Tuesday, ..26	30.58	34.0	41.0	28.0	68	54	61.0	N.W.	N.W.	10	8	C.	F.		.0
Wednes. ..27	30.45	35.0	40.0	30.0	100	88	94.0	N.	E.	8	35	N.	R.	2.00	.07
Thursday, .28	29.65	50.0	60.0	40.0	100	67	84.0	S.E.	S.W.	17	20	R.	C.	15.55	1.63
Friday, ...29	29.84	40.0	46.0	34.0	67	63	65.0	S.	S.W.	8	12	C.	C.		.0
Saturday, .30	30.21	32.0	36.	29.0	70	58	64.0	W.	W.	14	12	O.	C.		.0
Mean for Week.	30.14		46.0	34.0			71.0								

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 30, 1889, TO DECEMBER 6, 1889.

First Lieutenant R. R. BALL, assistant surgeon, Fort Riley, Kans., will proceed to Fort Sill, I. T., and report to the commanding officer for temporary duty at that post. Par. 2, S. O. 173, Department Missouri, November 21, 1889.

By direction of the Secretary of War, Captain JAMES E. PILCHER, assistant surgeon, is relieved from duty at Fort Hood, N. Y. H., and will report in person to the commanding officer Fort Clark, Texas, for duty at that station, reporting also by letter to the commanding general Department of Texas. Par. 3, S. O. 176, A. G. O., November 26, 1889.

Leave of absence for fifteen days is granted Captain JOHN J. COCHRAN, assistant surgeon U. S. Army, to commence about December 1, 1889. Par. 8, S. O. 272, Division Atlantic, November 27, 1889.

Leave of absence for one month, to take effect on or about December 18, 1889, is hereby granted Major WILLIAM D. WOLVERTON, surgeon U. S. Army, Fort Douglas, Utah, with permission to apply at Headquarters Division of the Missouri for an extension of seven days. Par. 1, S. O. 114, Department of the Platte, November 30. 1889.

By direction of the Secretary of War, Captain JOHN DE B. W. GARDINER, assistant surgeon, will be relieved from duty at Fort Reno, I. T., upon the arrival at that post of Captain JAMES C MERRILL, assistant surgeon, and will report in person to the commanding officer Fort Supply, Ind. Ty., for duty at that post. Par. 8, S. O, 279, A. G. O., November 30, 1889.

Leave of absence for fifteen days is hereby granted Captain WALTER D. MCCAW, assistant surgeon, U. S. Army, Fort McPherson, Ga. Par. 3, S. O. 276, Division Atlantic, December 3, 1889.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING DECEMBER 7, 1889.

NEILSON, J. L., surgeon. Detached from the U. S. S. "New Hampshire" and ordered to the U. S. S. "Portsmouth."

BEYER, H. G., passed assistant surgeon. Detached from the U. S. S. "Portsmouth," and placed on waiting orders.

SIEGFRIED, C. A., surgeon. Detached from the Naval Station, New London, Conn., and ordered to the "New Hampshire."

HALL, JNO. H., passed assistant surgeon. Ordered to the Naval Station, New London, Conn.

KITE, I. W., assistant surgeon. Detached from the Naval Hospital, Philadelphia, Pa., and ordered to the Naval Hospital, Pensacola, Fla.

ROSS, J. W., surgeon. Detached from the Naval Hospital, Pensacola, Fla., and placed on waiting orders.

OBITUARY. THOMAS B. HARVEY, M.D.

Thomas B. Harvey, M.D., died at Indianapolis, December 5th, aged sixty-two. He was graduated from the medical college of Ohio, at Cincinnati, in 1846. In 1862, he settled in Indianapolis, where he continued to practice the remainder of his life. During the year 1889 the Indiana Medical College was organized, and Dr. Harvey was appointed to the chair of medical and surgical diseases of women, which he held to the day of his death. For over twenty years Dr. Harvey was consulting physician in the same special department in the City Hospital, also in St. Vincent's Hospital since its organization, while for ten years he was consulting physician to the City Dispensary. He aided in the organization of the Hendricks County Medical Society, read the first paper before that body, and was subsequently its president. He also aided materially in the organization of the Indianapolis Academy of Medicine, and was honored in being elected its first president. He became a member of the State Medical Society during the third year of its existence; was made its vice-president in 1865, and its president in 1880. He was also a member of the American Medical Association, and of the Mississippi Valley Medical Society, before which bodies he read many able papers.

DEATH.

Died December 1st, Thomas Bassett, M.D., of Kingston, N. H., aged 92 years, 8 months, 18 days. He had been a medical practitioner for sixty-five years.

BOOKS AND PAMPHLETS RECEIVED.

A Handbook of Dermatology. For the Use of Students. By A. H. Ohmann-Dumesnil, A.M., M.D. Illustrated. St. Louis: St. Louis Medical and Surgical Journal Publishing Company. 1889.

Through the Ivory Gate: Studies in Psychology and Insanity. By William W. Ireland, M.D., Edin., formerly of H. M. Indian Army. New York: G. P. Putnam's Sons. 1889. Edinburgh: Bell & Bradfote.

Report upon the Sanitary Condition of Watch Hill, R. I., with Suggestions for Improvements. By Wm. Paul Gerhard, C.E., Consulting Engineer for Sanitary Works. Cincinnati: Robert Clarke & Co. 1889.

Misplacements of the Uterus. History of Cases Showing how in Many Instances they are Produced; the Accompanying Conditions: Microscopical Examinations. By Mary A. Dixon Jones, M.D., Brooklyn, N. Y. Reprint. 1889.

Contributions to the Surgical Treatment of Tumours of the Abdomen. Part II, Electricity in the Treatment of Uterine Tumours. By Thomas Keith, M.D., LL.D., Edin., and Skene Keith, F.R.C.S., Edin. Edinburgh: Oliver & Boyd. 1889.

Students' Aid Series.

Volume I. Aids to Diagnosis. Part I, by J. Milner Fothergill, M.D.; Part II, by J. C. Thorowgood, M.D.; Part III, by J. Milner Fothergill, M.D.

Volume II. Parts I, and II, Therapeutics and Materia Medica, by C. E. Armand Semple, M.D; Part III, Rational Therapeutics, by J. Milner Fothergill, M.D.

Volume III. Aids to Medicine. Part I, The General Diseases; Part II, The Pathology of the Urine; Part III, Diseases of the Brain, by C. E. Armand Semple, M.D.

Volume IV. Part I, Obstetrics, by Samuel Wall, M.D; Part II, Gynecology, by Alfred S. Gubb, M.D.

Volume V. Part I, Aids to Anatomy, by George Brown, M.D.; Part II, Aids to Surgery, by George Brown, M.D.; Part III, Aids to Physiology, by B. Thomsen Lowne, M.D.

Volume VI. Part I, Aids to Chemistry (Three Parts), by C. E. Armand Semple, M.D.; Part II, Forensic Medicine and Toxicology, by W. Douglas Hemming, M.D.

Six volumes. Published by G. P. Putnam's Sons. 1889.

Original Articles.

ON METHODS OF EXAMINATION IN MEDICO-LEGAL CASES INVOLVING SUITS FOR DAMAGES FOR REAL OR SUPPOSED INJURIES TO THE BRAIN AND SPINAL CORD.[1]

BY PHILIP COOMBS KNAPP, A.M., M.D.,
Clinical Instructor in Diseases of the Nervous System, Harvard Medical School; Physician for Diseases of the Nervous System to Out-patients, Boston City Hospital.

WHEN a patient has been for a long time the victim of nervous disease, it often happens that he is disposed to exaggerate his symptoms, or else he may be, from his natural incapacity or as the result of disease, incapable of giving trustworthy information. These sources of error are also present, sometimes even to a greater degree, in patients with nervous disease due to injury. In such cases the victim of an accident returns to consciousness to meet the letter of the "shyster" lawyer who urges him to bring suit against the persons or the company liable for his injuries; he has the question of a law suit presented to him in repeated family conclaves; he is visited by experts who subject him to all sorts of examinations; he is subject to the worry and excitement of a trial, with its appeals and delays; through it all he is harassed by the vital questions, "What will become of me? Shall I be able to earn any more money? Who will provide for my wife and children?" At last all is over, he is left to himself, his anxieties about money are relieved, and, being free from excitement, he not unnaturally gets better. In the majority of cases the symptoms are largely subjective, and the railway surgeons, unused to the symptoms of nervous disease and incapable of estimating them at their true value, note the improvement and say that the man was a fraud. In many cases, however, the improvement is partial and often only temporary. Besides there are, perhaps, other cases where the patient has sustained some trifling injury; these cases are undoubtedly not seriously injured and some of them are undoubted frauds, and are successful in imposing upon the railway companies. It behooves us, therefore, to study carefully the symptoms, and to see in what ways we can determine whether the case before us is genuine or not. It is my purpose, therefore, in this paper to speak of some of the methods which the physician should employ in his examination. In so doing I shall avoid saying much of methods which require special and complicated apparatus, and I shall speak only of those methods of examining special organs like the eye or the ear, which the general practitioner ought to understand and to be able to employ.

In the first place I would say here, once for all, that in examining the patient, he should be carefully and unobtrusively watched during the whole period of examination. In this way many efforts at simulation may be detected, a paralyzed limb will be seen to be moved, an assumed expression will be dropped, or a feigned lameness will disappear. This obvious injunction is, however, so familiar and has been so repeatedly insisted upon that it has led to a source of error. When certain symptoms are elicited only by special methods of research and do not appear during the patient's ordinary acts, it is often hastily and incorrectly assumed that they are simulated. Now it is perfectly well-known that we have precisely such a state of affairs in many organic diseases of the nervous system. In the early stages of tabes dorsalis we may note no peculiarity of the patient's gait or station, but if we make him walk or stand barefooted and with his eyes shut we can detect the beginning of ataxia. In multiple sclerosis the characteristic intention tremor may be absent when the patient performs the more automatic movements of taking off his hat or shaking hands, but when he tries to write or lift a glass full of water to his mouth the tremor appears. It is obvious, then, that if we reject such tests we deprive ourselves of extremely valuable data for diagnosis. Moreover, if we consider the mental processes which the simulator would naturally employ, it is not credible that he would conceal his symptoms from ordinary view and reveal them only on the application of unfamiliar and highly specialized tests. Feigned symptoms are aggressively prominent, but in many of these cases there are many symptoms which must be searched for with care and inquired after in detail. Such symptoms, although subjective, that is dependent upon what the patient tells us or does himself, are in my opinion, of great value, and afford evidence second only to the purely objective phenomena. Of course, I do not include answers to leading questions, as in regard to pain or peculiar sensations, but rather the results of examination into disturbances of motion and sensibility. Furthermore, symptoms of a slight and partial character, such as slight loss of sensation, poor vision, slight tenderness, etc., are more apt to be genuine, for the simulator usually goes to extremes.

In what I have to say I shall touch lightly upon the symptoms of the typical organic affections which may follow injury, such as transverse myelitis, paralysis from direct injury to the brain or cord, fractures, neuritis, or the typical degenerative diseases like tabes or general paralysis. Such results of injury are less common, and the symptoms of these affections are usually so well marked that the diagnosis is easy. The chief difficulty lies with the cases of so-called "spinal concussion" or "railway spine," the "traumatic neuroses" of the recent German observers.

In the first place, then, a full history of the patient's trouble should be taken, including an account of the accident. This history should be taken without the presence of a third person, unless another physician be present. Careful inquiry should be made in regard to all the symptoms, and the functions of all portions of the body should be investigated. After that it is well to get a supplementary account of the patient's condition from some member of the family. Statements from casual acquaintances who see and can know little about the patient are not of much value. During this time many of the symptoms to be spoken of later should be noted and the estimate made as to the mental condition.

PSYCHICAL SYMPTOMS.

It is comparatively rare that we meet with any pronounced type of insanity following injury. There is a form of primary traumatic insanity with dementia, disturbed consciousness, confusion, hallucinations and maniacal outbursts which is occasionally met with. Dementia and general paralysis may also rarely follow injury. For the detection of these I must refer to the treatises on insanity, noting in passing, that many alienists think that simulation of insanity is in itself a symptom of mental derangement.

[1] Read before the Massachusetts Medico-Legal Society, October 2, 1889.

In the majority of cases, however, there are distinct psychical disturbances, not reaching the degree of actual insanity, which can be detected on careful examination. The patient has an anxious, furtive, restless look, or else he may be distinctly melancholy. He is sometimes distinctly emotional, and bursts into tears on slight provocation, shedding actual tears. He becomes distinctly hypochondriacal. He wanders about restlessly with his fingers fumbling with his clothes, or twisting together. More often he sits by himself, avoiding other people, caring little for what is going on, and taking little interest in anything — even in his suit for damages. He has little to say, and what he says is in a constrained tone and broken by sighs or gaspings for breath. The memory and the mental power are much poorer than before his injury. He is, moreover, abnormally irritable, and he shows it by objecting to examination; he cannot bear the noise of his children or the slightest disturbance of his domestic life. Finally, the power of persistent mental or physical application is lost; although he may attempt to work he cannot pay attention to it nor keep at it; and when at home, he never can occupy himself in anything. Reading or listening to reading becomes impossible after a few minutes. The whole train of psychical symptoms, may also have brief periods of exacerbation, "anxious spells," lasting a few moments and being attended with increased frequency of the pulse.

This psychical symptom-complex, with its marked features of irritability, depression and loss of power of persistent application, is of very great value in diagnosis. It is present to a greater or less degree in the majority of severe cases. I believe, moreover, that it is practically impossible to feign this condition successfully. If the patient himself produces upon the physician, after careful observation, the impression of this condition, and if his own statements and the statements of his family corroborate it after close questioning, it may be set down as genuine. It may require several observations, but, if the physician be sufficiently familiar with mental disturbances to be capable of judging intelligently concerning them, a definite conclusion can be reached, and the patients possessing medical knowledge and the immense dramatic skill requisite to simulate this condition successfully are very few.

In addition to these psychical symptoms the patient will often report certain other cerebral symptoms, which should be given some weight. Headache is common, but usually it is said not to be very severe — the simulator's pains are generally intense. Vertigo is often present. The speech is seldom much disturbed, except in the way I have just mentioned. Hoarseness demands a laryngeal examination to discover its cause. True aphasic symptoms are absent except in cases of direct injury to the speech centres. The characteristic speech of general paralysis and multiple sclerosis is familiar. In these affections, too, the handwriting is typical, and a specimen of it ought always to be procured.

Before speaking in detail of the physical examination it may be stated that a careful examination of the body should be made for evidence of local injury, bruises, wounds, scars, or fractures.

MOTOR SYMPTOMS.

Eye. — Each eye should be examined separately, and then both together. We must note the power of movement of the eye-ball in all directions, the size of the pupils and their relation to each other, and the reaction of the pupils to light, accommodation, and irritation of the skin of the neck. Although it is sometimes a problem of exceeding difficulty to determine just what muscle or muscles may be paralyzed, it is usually an easy matter to determine that some muscle is paralyzed, and the simulation of paralysis of any muscle of the eye or of the eyelid is impossible. Nystagmus is another incontestable symptom, but it is often to be noticed only when the eyes are turned in one particular direction. This symptom is occasionally present in traumatic neuroses, but oculo-motor paralysis is extremely rare. In oculo-motor paralysis the patient will complain of double vision. It occasionally happens that the patient has double vision with only one eye. This is so rare a symptom and apparently so impossible that no simulator would venture to feign it. Therefore, when it is reported, the chances are greatly in favor of its genuineness.

Dilatation or contraction of the pupils may be produced by drugs; in that case they will not respond to light or accommodation, but in dilatation from disease the same thing may happen. Unequal pupils that react are incontestable. They are not common, however, except in degenerative diseases like general paralysis. Temporary inequality from an abnormally mobile pupil is occasionally seen in neurasthenic conditions, and has little significance. In pupils of moderate size a failure to react is also incontestable evidence of disease, and the proof is even stronger if the pupils react to accommodation and not to light. This is occasionally noted in traumatic neuroses, and is not uncommon in tabes and general paralysis.

Most of the oculo-motor symptoms, therefore, are of a class that are purely objective and cannot be feigned, but in the majority of cases of traumatic neuroses they are absent. In obscure cases, therefore, their absence can count for little but their presence means very much.

Face. — Paralysis of all branches of the facial nerve cannot be simulated, but it is due to peripheral trouble and is very rarely seen after injury. Paralysis of the lower part is seen in certain forms of brain disease, and is not an easy thing to simulate. In central paralysis the power of voluntary movement may be lost, and yet the face may move from emotion, as in laughing or crying. If such a thing is noted it therefore does not prove simulation, but rather the reverse, for, if a simulator had so great skill as to feign facial paralysis successfully, he would be very likely to manifest it constantly. Fibrillary tremor of the face and tongue is of considerable value in the diagnosis of degenerative diseases like general paralysis, and is, of course, incontestable. Paralysis of the tongue is so rarely seen in any traumatic case that it need not detain us.

Paralysis. — It is well to examine the limbs systematically, beginning with the arms, and directing the patient to make all the movements at each joint, proceeding from the trunk to the periphery. All the joints should also be moved passively to detect any joint disease. Then the patient should be directed to make the principal movements against the resistance of the examiner, which affords the only practicable test of muscular strength, although it is not a test which can be expressed in figures. I need not call attention to the fact that the distribution of the paralysis is a guide for the localization of the disease. Pa-

ralysis is a favorite symptom for the simulator, and the detection of a bogus paralysis is not always easy. Fortunately our suspicions need not be excited unless we meet with a paralysis without anæsthesia, contracture, altered reflexes, atrophy or electrical changes. In such cases much care is needed to detect fraud. The unexpected application of a very strong faradic current or the ostentatious use of the actual cautery, may cause a movement of an alleged paralyzed limb. When a patient with a paralyzed arm stoops the arm drops to the perpendicular; the simulator is apt to keep his at his side. Actual paralysis, however, is rare. It is seen, of course, in transverse myelitis, where the other symptoms render the diagnosis easy, and in neuritis, which, as I have shown elsewhere,[2] is a not uncommon complication of "concussion" cases. It is also observed in the hysterical monoplegia so graphically described by Charcot — the "local traumatic neurosis" of Strümpell[3] — which, like all forms of traumatic hysteria, is very rare in this country. In the general traumatic neurosis there is rarely any paralysis, but all movements are slow and feeble, and the contraction of any group of muscles cannot be maintained, as some forms of dynamometer will show. Here Oppenheim[4] has shown that the suspicion of simulation may be wrongly excited because the patient apparently calls many muscles into play, makes a tremendous effort, and accomplishes little, as if he were really holding his muscles in restraint. This is not due to simulation, however, but to the loss of memory of the motor force necessary. Weakness is more likely to be genuine than actual paralysis, and, when combined with other symptoms is of considerable value.

Gait. — Beside noticing the ordinary gait we should make the patient walk with his eyes shut, making quick turns, and also walk barefooted, which will reveal slighter changes. The ataxic and cerebellar gaits are occasionally seen, but the commonest gait in the traumatic neuroses is an approximation to the spastic gait, with short, shuffling steps. There is no absolute criterion of the genuineness of the gait. Above all in the majority of cases all movements, especially sitting and rising, are governed by the necessity of keeping the spine rigid. Of this stiffness in the back I will speak later.

Contracture and Spasm. — Contracture can be readily distinguished from active efforts to hold the limb in the same position, by the absence of any visible and active contraction of the muscles. It is impossible to feign this condition, but it is rare except in gross disease of the nervous system and in hysteria. In the traumatic neuroses, however, there is apt to be more or less rigidity of the muscles, which is readily recognized and not very apt to be simulated. Clonic spasm is seldom if ever seen.

Convulsions. — Temporary lapses from consciousness are occasionally reported, often associated with vertigo, but true convulsions are rare except as a result of injury to the head. If there is a history of convulsions corroborative evidence may be afforded by bodily injuries or scars on the tongue. If the patient be seen in a convulsion the presence of dilated and immobile pupils is the best test for its genuineness.

Tremor. — Not only must we note the existence of tremor when the patient is presumably off his guard, but we must observe whether it is present during the performance of certain rather delicate movements, such as lifting a glass full of water to the mouth. The latter, for reasons already given, is more apt to be genuine. In traumatic neuroses, a general tremor is not uncommon, and sometimes it extends to so many muscles, including the muscles of the neck, that simulation is hardly possible. The true intention tremor, such as is seen in multiple sclerosis, is occasionally seen in these cases, and is a symptom not likely to be feigned, or if feigned, it will be introduced into the more automatic movements and suspicion may thus be excited. Intention tremor when genuine is a symptom of considerable value as indicating organic disease. Fibrillary tremor, seen most commonly in the limbs in muscular atrophy, is an incontestable symptom.

Ataxia. — We must test the accuracy of movements with the eyes open and shut and compare it with the accuracy of unconscious movements. We must test the patient's power of standing, of standing with the eyes shut and the feet together, of standing on one foot and of standing barefooted. Swaying when barefooted with the eyes shut and not with the boots on is again a valuable test of genuineness. The patient's power of keeping the limbs in a fixed position with the eyes open and shut must also be tested. There is no absolute criterion for any of these forms of ataxia, but the presence of the more delicate shades of it is of much value. Ataxia is occasionally seen in traumatic neuroses, but it is not very common. Its significance in tabes and neuritis is well-known.

Muscular Atrophy and Electrical Excitability. — Much stress is laid upon the electrical reactions in the courts, and a recent writer goes so far as to say: "injury to the spinal cord should always be indicated by muscular atrophy in a more or less marked degree, and when no change is noted in the nutrition of the muscles, doubt may well exist in the mind of the expert as to there having been any concussion of the spinal cord."[5] If by "concussion of the spinal cord" is meant the condition once called by that name and now generally recognized to be cerebral as much if not more than spinal — the condition in short, which I have repeatedly referred to in this paper as the traumatic neuroses — I would say that muscular atrophy is rarely present, even in fatal cases, and that the electrical reactions in the majority of cases reveal nothing. Nevertheless, the electrical reactions should always be tested, for, when they are altered we have incontestable evidence of organic disease of the highest value. In some cases there is a complicating neuritis, with its accompanying electrical changes. Apart from this, muscular atrophy in the traumatic neuroses is rare, and although quantitative changes in the electrical reactions are sometimes seen, the qualitative changes of the degenerative reactions are as rare as atrophy. In testing the reactions the indifferent electrode, which must be "large" (5 x 10 cm.) well covered with absorbent cotton, and thoroughly wet, should be placed either on the sternum or the mid-dorsal region, but, whichever position be selected, the same position should be chosen in all cases. The nerves and muscles should be tested, at the appropriate motor points, with a "normal" electrode (10 sq. cm.) on an interrupting handle. The faradic current should be used first and the position of

[2] Boston Med. and Surg. Jour., November 1, 8, 1888.
[3] Berliner Klinik, 1888, Heft 3.
[4] Die traumatischen Neurosen, p. 107. Berlin, 1889.
[5] H. H. Smith: Jour. Am. Med. Assoc., August 10, 1889

the cylinder noted for the earliest reaction. The galvanic current should then be used, with a galvanometer in circuit, and the smallest current (in milliampères) noted at which KaSZ and AnSZ occur. Besides this we must note whether contractions be slow or quick. If muscular atrophy be apparent on inspection, careful measurements should be taken, and the presence of fibrillary contractions noted. Of course, the emaciation not uncommon in these cases of protracted illness would never be mistaken for true muscular atrophy. Although the one-sided view of refusing to recognize cases as genuine unless muscular atrophy be present, is utterly incorrect and misleading, still, as I have just said, in the very rare cases where it is present it affords absolute and incontestable evidence of disease, especially where electrical changes are added.

I may say, in passing, that general emaciation, to which I have just referred, is, of course, evidence in favor of a chronic disease and it is not a thing to be simulated.

REFLEXES.

Cutaneous Reflexes. — The important skin reflexes to be tested are the plantar, cremaster, abdominal and epigastric. The last two are occasionally absent in health, but absence of the first two is always significant. Another symptom of importance is a difference between the reflexes on the two sides of the body, which is always indicative of some nervous disorder. In many cases these reflexes are undisturbed, but when there is disturbance it is a symptom of disorder in the nervous system which cannot be simulated. This disorder is not necessarily coarse organic disease, for in hysterical anæsthesia the skin reflex may be lost, but the changes in the reflexes signify some genuine trouble.

Tendon Reflexes. — The most important reflex here is the knee-jerk. The best way to obtain this is to seat the patient on a table with his legs hanging over the edge. The legs should be bare, and all constriction removed. By placing one hand upon the quadriceps any attempt at voluntary control of the muscle can at once be detected. The muscle should be relaxed, and the tendon struck with a percussion hammer, a book or the ulnar edge of the hand. If there is no response the patient should re-enforce the reflex by clenching the hands tightly. Persistent absence of the knee-jerk under re-enforcement I believe always signifies organic nervous disease. If cases do occur when it is absent in health they are extremely rare and still questionable. Absence of the knee-jerk, almost constant in tabes and multiple neuritis is extremely rare in traumatic neuroses. In the majority of cases it is exaggerated somewhat. If the jerk is very lively the leg should be extended, the finger placed over the patella which should be drawn down and the finger should be struck a smart blow with a percussion hammer. When the knee-jerk is exaggerated this will cause a contraction of the muscle, and in extreme cases it will set up a clonus. It is a rather delicate and an incontestable proof of exaggeration. Gower's front-tap contraction is another delicate test. Neither of these, however, indicate a degree of exaggeration that is necessarily abnormal.

When the exaggeration is abnormal sudden dorsal extension of the foot on the leg while keeping it strongly extended will give rise to a clonus. If this or the patellar clonus or both be present on repeated examination we have incontestable proof of organic nervous disease. Ankle clonus, however, is of value only when there is a persistent rhythmical clonus. A few irregular contractions soon dying out mean nothing. This clonus when persistent and constant is indicative of disease in the lateral columns of the spinal cord. It is rare, however, to find it in traumatic neuritis.

In a few cases, especially in hemiplegia and paralysis of one arm, the reflexes from the upper extremity may be of interest, but, as a rule, they have much less value.

(To be continued.)

SOME CONSIDERATIONS CONCERNING SYPHILIS AND MARRIAGE.[1]

BY ABNER POST, M.D.

IT is not my wish in this short paper to settle categorically all the vexed questions connected with the subject of "Syphilis and Marriage," but rather, so far as I am able, to formulate the general rules to be followed regarding the marriage of syphilitics, and to enumerate some of the difficulties that I have personally encountered in connection with the subject.

It must be considered that syphilis is a most serious disease, that to contract it is a great misfortune, and to wilfully or even carelessly transmit it to another, is a crime. The victim of syphilis is most likely to inoculate others during the first few months of his disease. There comes a time when he is no longer to be regarded as a special object of danger, and, in all probabilty the latest or so-called tertiary symptoms are absolutely devoid of all contagious properties. A man who marries in the earlier months of his disease is sure to infect his wife, under ordinary circumstances. The same man, after a series of years, may, we know, safely marry; and he may *expect* with great confidence to see a healthy posterity. If it were possible to say that after the lapse of exactly so many months or years the victim of syphilis ceased to be capable of infecting healthy individuals, it would be possible to draw the line beyond which marriage might be permissible. No such line can be definitely drawn, and only approximate rules can be laid down, which may read as follows:

Before a syphilitic can be considered a suitable candidate for marriage

The disease must have passed the period which comprises the usual secondary symptoms.

There must have been a well-marked period of entire freedom from symptoms.

The patient must have submitted to thorough treatment.

The period of time which fulfuls these conditions is impossible to exactly determine. Fournier puts the minimum time that ought to be required before the doctor can even tolerate a marriage at three or four years, and considers a longer delay preferable, and that of this time the last eighteen months or two years should have been entirely free from all symptoms of the disease. This period is none too long in those cases in which the disease shows its gravest forms, but there are certainly cases in which marriage may be consumated after a shorter interval with perfect immunity; and in the last edition of Bumstead

[1] Read before the Boston Society for Medical Observation, October 7, 1889.

and Taylor, the author closes a short chapter on "Syphilis and Marriage," with the following paragraph:

"If possible, it is always well to delay the marriage of a syphilitic person until the end of the second year of infection. But this only holds good for cases which have been treated regularly and systematically during that period, and which at the expiration of that time are apparently free from the disease."

Keyes "puts it roughly" by saying, . . . "after about four years, or, to be safer, at a period not earlier than four years after chancre, when it can be proved that no symptom of syphilis has shown upon the patient for a year, during which year he has been at least six months without treatment."

In discussing the danger in marriage, it must be said that a man may be considered to cease to be *directly* dangerous to his wife, while he is still in a condition to transmit disease to his children; so that he may live in safety with a wife so long as there are no children.

My own opinion may be expressed as follows: In the very mildest cases two years is long enough to wait. The man has by that time ceased to be a source of direct danger to his wife; but even in those cases, I should prefer not to sanction the birth of children. For the severer cases a longer time ought to elapse. Possibly some of the worst cases ought not marry at all. Treatment ought to have been thorough to sanction an early marriage. The medical adviser must be very slow to give more positive assurance of safety than the nature of the disease will permit. The actual responsibility of acting must rest with the interested party.

It has been recently said to me that it makes little difference what the doctor may say upon the subject, syphilitics will marry when they please, the idea being apparently that the doctor may view the matter without much feeling of responsibility. The very opposite seems the fact. If certain patients disregard the doctor's advice, many others are very anxious to know their duty, and follow it faithfully when they learn it. The idea is a very prevalent one that a patient with syphilis must not marry at all, and a permission to marry after a series of years, is to many a brighter future than they dared hope. In contrasting the idea that patients will not heed the dictim of the doctor in regard to marriage, with my own experience, I am able to recall case after case in which marriage has been postponed in accordance with the doctor's advice.

In view of the near consummation of an engagement, the diagnosis of a venéreal sore if often of great moment. I remember very distinctly a case in which a man had indulged in a last debauch, expecting soon to marry and settle down. He contracted a venereal sore for which he consulted a gentleman in active practice, who pronounced it a chancroid. The preparations for the marriage were accordingly carried forward, but the sore grew suspicious: a second physician believed it syphilitic, and brought the patient, now almost beside himself with mortification, to me. At that time there was no difficulty in a diagnosis of syphilis, and the patient very honorably, as it seemed to me, caused his engagement to be broken. In this connection it seems proper to remark that the simple venereal ulcer known as the chancroid, is growing comparatively rare as compared with the initial lesion of syphilis, so that the diagnosis of chancroid needs to be made with more and more caution, and particularly, if any question of marriage is involved.

It is not often, probably, that the doctor is consulted by a woman who is syphilitic. as to the propriety of marriage on her part. The question does arise, however; and the answer must be given on the same general principles as those that govern the answer to the male. It is more of a shock to our minds to think of a syphilitic woman marrying a non-syphilitic man, than the opposite. Widows, and women accidentally syphilized in non-venereal manner may, of course, ask the question honestly. If there is, as I believe, any difference in regard to the sexes, one ought to be still more careful to make sure that the disease is latent in the female, and has been most faithfully treated. The woman is more likely to transmit the disease to her offspring, so that there is good reason to hesitate more about sanctioning her marriage, and the interval between the inception of the disease and marriage ought to be longer. For the female, in the opinion of Keyes, five years is little enough; and he thinks more would be better.

It is not often that a woman has the audacity to say to the doctor, "If you will not let me get married, I can't get the money to pay my bill."

This question in regard to the woman may be presented to the doctor in a very embarrassing manner, as occurred to me several years ago. A young woman was under my care for syphilis of a very severe type, with nervous symptoms which did not augur well for her future. She seemed to have some distrust of a doctor's discretion, and bound her medical adviser to secrecy with more than usual solemnity. After her symptoms had disappeared, but within an interval too short to admit of marriage, I received a call from a young man who asked me if I knew any reason why a marriage with her would be undesirable, and if such a reason existed, what it was? Of course, that young man had no right to question a doctor as to his former patient as I somewhat emphatically told him; but at the same time that I recognized my duty to my patient, I could not fully divest myself of a feeling of sympathy for the confiding young man who was in the toils of this Circe. Refusing to say a word about my patient, I referred the young man to his family practitioner whom I knew, and who would, I knew, be wise enough to suspect more than I dared to tell. The proper method of dealing with such a case, is through the patient. It could not be very difficult to bring a woman in such a case as that to see the necessity of controlling her own destiny.

May a man and woman, both syphilitics, marry? Such a question has been asked of me but once, and in considering the matter I was unable to find any reason why the marriage should not be consummated. To the man it was impossible to do any further damage: he was already syphilitic. The woman might receive serious damage by becoming pregnant, but it was only through pregnancy that damage could occur. I do not mean that her syphilis would increase in severity, but the influence of pregnancy and abortion, or, worse yet, of bringing in to the world a syphilitic child could not fail to be injurious both to the body and mind of the woman. Of course, the offspring of two individuals recently syphilitic are peculiarly exposed. I did not hesitate to say to them that there must be no pregnancy ever. My injunctions have been carried out

and both have done well; but I have been recently called upon to answer the question when they may allow themselves to have children. I hardly know a more serious question that can be raised: both parties thoroughly syphilitic, anxious for children, and yet realizing fully that it is far better to remain childless than to bring into the world a tainted infant. Is there ever a time when such parents can feel sure of producing a healthy offspring? There are cases enough on record where pregnancy after pregnancy has resulted unfortunately during a long series of years. There are also cases enough where the influence of of the disease is more limited. It seems to me that the cases where the influence of the disease is shown in the offspring during so long a period are exceptional cases, in which the disease has fastened upon the reproductive organs. Few of them have been thoroughly treated. I think the time will come when the chances of healthy offspring will be so great that my patient will be justified in running it. If I was forced to limit the time, five years would seem to me none too long a time, and I should require that the last two years should be without symptoms. I should also desire an extra mercurial course before conception.

How shall we act towards a man who contracts a chancre while living in the married state? It is a question of great importance to settle for that man the time at which he may return to his wife, and the responsibility of the doctor in advising him is not to be regarded lightly. I must confess I do not quite know how to solve the question. It is perfectly possible to lay down certain negative rules. He must, of course, abstain from intercourse so long as he has visible signs of the disease, but it is not safe to trust the man himself to judge when he is free from all danger, a judgment which the most experienced syphilographer might hesitate to pronounce. Probably the disease is more often communicated by some unrecognized abrasion or slight ulceration, than by an obvious and plainly-recognized lesion: desire to escape detection is more often the controlling motive on the part of the husband, than the wish to shield his wife from disease.

How shall we act towards a married woman who contracts a chancre? The number of wives who introduce syphilis into the family is probably much smaller than that of the husbands; but it certainly is occasionally introduced from that side. I do not know that our actions should differ with the sex, unless to impose even greater strictness upon the woman, as it is still more difficult for her to judge of her own condition.

Both husband and wife ought to be informed that they are probably dangerous to their household for a period longer than is covered by the external manifestations of the disease.

An unpleasant complication sometimes arises when the patient accuses himself of introducing syphilis into the family, when he is the victim. A man presented himself with a sore of undetermined character. His conduct was not blameless; but, like other men, he believed it was impossible to have gained any disease from the only exposure of which he had been guilty for a long time. An examination of his guilty paramour, as reported from a nameless source, seemed to confirm his belief in the absence of disease in the person implicated. I say, seemed to confirm, because the woman was never seen by me, but was examined by a physician of whose name I am ignorant, who reported to the patient. Time soon showed the disease to be syphilis; and coincidently with the appearance of the roseola, my patient expressed his fears that he had infected his wife, from whom he had absented himself since the first appearance of his sore. When seen, she showed a roseola, just fading, undoubtedly the older syphilis of the two. In this case it seemed to me that the mutual unfaithfulness absolved the doctor from any duty beyond the treatment of the two cases as they presented themselves.

What is the proper conduct toward the children of a family in which one or both parents are known to be syphilitic? It occasionally happens that a former patient reappears after some years with the information that he has married, and is now a father. Paternity has made him thoughtful, he fears that his first-born has inherited some trouble, and he wants the doctor to examine the infant and determine whether treatment is necessary.

It is a very delicate, often impossible, task to determine whether there is any syphilitic taint in a child, and the propriety of antisyphilitic treatment is equally difficult. The rules laid down by Fournier seem to me so wise, that I trust that I may be pardoned for quoting them here:

"An infant born healthy, in appearance at least, of a syphilitic father need not be treated. Paternal heredity is so much less certain than maternal heredity that the infant has a good chance of having escaped the disease.

"An infant born healthy, in appearance at least, of a mother formerly syphilitic, but who has not shown any accidents of syphilis during her pregnancy need not be treated, since if there are any chances of its being syphilitic there are also chances that it may have escaped.

"An infant born healthy, in appearance, of a woman recently syphilitic, especially if she has had venereal accidents during the course of her pregnancy, ought to be treated energetically from its birth, since it is certain, in spite of its healthy appearance, that it is syphilitic."

There is another class of patients, to which I wish to refer, — rather than to express sympathy than because they deserve other enumeration, — that class of individuals who suffer from some reminder of an early syphilis, when they have long been staid fathers of families. Such men often suffer very acutely at the disgrace which they fancy has overtaken them. They brood over the possibility of infecting the various members of the family; they speculate as to the possibility that their children are tainted; and they imagine the secret cause of their trouble will become public to the shame of themselves and of their families. In fact, they deserved to be classed among the syphilophobiacs and their mental condition often causes more trouble than the physical ailment.

— A contemporary, on the lookout for physiological information, has learned of a sweet girl graduate, who read an essay on physiology, in which she said: "The human body is divided into three parts — the head, the chist, and the stomick. The head contains the eyes and brains, if any. The chist contains the lungs and a piece of the liver. The stomick is devoted to the bowels, of which there are five, a, e, i, o, u, and sometimes w and y."

FIVE HUNDRED AND NINE CASES OF LABOR.[1]

An Analysis of all the Cases in the Out-patient Department of the Boston Lying-in Hospital and of the Boston Dispensary, in the Year 1888.

BY CHARLES W. TOWNSEND, M.D.

The following is a brief analysis of the cases of labor attended by the externes of the Boston Lying-in Hospital during the year 1888, under the direction of Dr. C. M. Green, assistant physician, and Dr. Edward Reynolds and myself, physicians to out-patients to the hospital. The out-patients to the hospital numbered 341 cases, and 168 were Boston Dispensary cases, making a total of 509 cases. Of the 509 mothers, one died of phthisis on the seventh day, the fatal ending being probably hastened by the stress of the labor, but in nowise due to it; so that we can with propriety exclude this death in an obstetrical analysis. No other cases were fatal.

In the year 1887, the last fatal case in the clinic was that of a patient delivered on July 1st, and in the year 1889, the first fatal case was of a patient delivered February 23d. It is interesting to note, therefore, if we omit the case of phthisis in 1888, that during a period of twenty successive months not a single mother died; or a series of 820 consecutive cases without a death.

These favorable results can be largely attributed to the simple but strict antiseptic precautions used by the attendants, which have been so fully described in the paper by my colleague, Dr. Edward Reynolds, and I shall only repeat that they consist chiefly of thorough antisepsis of the examining finger, and of all instruments.

The freedom from septic infection is shown by an analysis of the temperature records; for in 384 cases, or 75%, the temperature always remained below 100°. In 54 cases the temperature reached 100° or 101°, once; in 21 cases, twice; in 12, three times; in 5, four times; and in 4, five times; but was otherwise normal. In 10 cases the temperature remained normal, with the exception of one day, when it registered 102° or over. In 7 the temperature jumped once to 100°, and once to 102° or over; and in one case it registered over 102° three times, and 100° once. Many of these cases of slight and transitory rise of temperature could be explained by nervous excitement, by constipation, by slightly inflamed breasts or sore nipples, although it is probable that some of them were due to slight septic absorption, not sufficient, by any means, to deserve the name of septicæmia. Two cases had irregularly elevated temperatures, due to phthisis; in another, an occasional temperature of 101° was caused by rheumatism; and in another, by tonsillitis. Adding up this list I have just given, we find 118 cases where an occasional and slight elevation of the temperature occurred, or where in some cases this elevation was of a longer duration, but not due to obstetrical causes. These with 384 normal cases give 502 cases or 98.6% of all the cases free from septic trouble. Of the remaining seven cases, three might fairly be considered to have had mild septicæmia, lasting in one case two weeks, the temperature running from 100° to 104°. This was due to a retained portion of the placenta, for which, however, the clinic was not responsible, as both child and placenta were born before the attendant's arrival. The patient recovered after the uterus was curetted. The two other cases were very mild, and lasted seven and eight days respectively. Five remaining cases were possibly of septic origin, although the signs and symptoms, with the exception of an elevated temperature lasting from three to seven days, did not point to this. One of these cases had a temperature of 102° to 104° for three days following a delivery by craniotomy, and was undoubtedly due to the shock and excitement of labor.

The nationality of the patients was divided as follows: American, 148; Russian, most of these being Polish Jews with far from aseptic surroundings, 147; Irish, 107; German, 34; English, 25; Swedish, 10; Austrian, 9; Italian, 7; Scotch, 4; Portuguese, 3; Danish, 1.

There were 96 primiparæ, and 409 multiparæ. The average duration of labor among the former was, in 92 cases, 17.6 hours, the longest labor lasting 61 hours the shortest 1¼ hours. Among 383 multiparæ, the average duration of labor was 11.5 hours, the longest being 69 hours, the shortest ¼ hour. These averages are almost exactly those of Spiegelberg, who found an average of 17 hours for primiparæ, and 12 hours for multiparæ.

The 509 mothers gave birth to 516 children, six cases of twins occurring in the list. There were 42 still-born, 11 being born before the sixth month, and therefore non-viable. Of the 31 viable, 5 were premature, 2 were born by craniotomy, one being hydrocephalic; 2 were the second of twins; and 2 had prolapsed cords; 15 had been dead for some time, and were macerated. Ten other children died in from a few hours to six days, four of these being premature; two died of hæmatophilia, two of cerebral hæmorrhage following difficult labor, one of syphilis, and one of imperforate rectum, for whom Litré's operation was done.

Besides these fatal cases, the following deformities or diseases were observed among the 463 children that were discharged well: One monster with double fingers and toes, webbed legs and curiously deformed mouth;[2] one with hare-lip and cleft palate; one with cleft palate; one with a large hydrocele; eight with icterus neonatorum.

Of 474 cases where the presentations were recorded, 456 or over 96 % were vertex presentations. Spiegelberg gives over 97% as the ratio for this presentation. Thirteen were breech presentations, three face, one brow, and one transverse.

There were 34 operative cases, of 6½% of the entire number; many of the low forceps operations were performed by the hospital internes, the other operations by Dr. Edw. Reynolds or myself, with one exception, where Dr. Green operated.

There were 20 low forceps operations, six high forceps, five internal podalic versions, and three difficult breech extractions. To be included within these 34 cases were two cases of craniotomy to the after-coming head, one case of cephalic version, and one case of delivery of the aftercoming head with forceps.

Low Forceps. Twenty cases. Fourteen of the mothers were primiparæ, six were multiparæ. The ages of the primiparæ are not of much significance as a cause of delay in the labor, as only two were under twenty years, one being sixteen years old; while only

[1] Read before the Obstetrical Society of Boston, October 12, 1889.

[2] E. Reynolds: Boston Med. and Surg. Jour.

three were over twenty-five, the eldest being thirty years old.

The occiput was in all cases anterior when the forceps was applied, rotation having taken place in those cases where the position was primarily a posterior one. The anterior rotation of the occiput was, in many cases, obtained by the attendant by the simple device of producing complete flexion by placing the fingers firmly on the sinciput during a pain. The position was primarily O. L. A. in fourteen, and O. D. P. in six.

All of the children were discharged well, with but one exception, that one being dead before delivery, in consequence of the compression of a prolapsed cord. The largest child weighed eleven and one-half pounds.

High Forceps. — Six cases. All were in multiparæ, three having had six or more children. In one, labor was induced at the end of the eighth month, on account of a justo-minor pelvis.[3] Cephalic version was performed, and a living child delivered by forceps applied at the brim, with axis traction rods. This interesting case has already been reported to this Society by Dr. Edw. Reynolds.[4]

In one of the remaining five cases, the presentation was O. L. A.; but as the child weighed ten pounds, and the pelvis was slightly contracted[5] in all diameters, there was sufficient cause for delay. Delivery of a living child, with axis traction rods attached to the ordinary Braun-Simpson forceps, was easily performed. Three of the cases presented O. D. P., slightly extended at the brim, the children weighing seven, eight and nine pounds respectively. There was a slight general contraction[6] of the pelvis in the case whose child weighed seven pounds, and a generally contracted flat[7] pelvis in the case where the child weighed eight pounds. In two of the cases constriction rings existed, making version inadvisable. In the generally contracted flat pelvis, the occiput had already rotated to the front, and was delivered by axis traction. In the other two cases, rotation had not taken place. One was rotated manually at the brim, and then easily delivered with forceps. Manual rotation in the other case, where there was a slightly generally contracted pelvis, was easy, but the occiput returned to the posterior position, and the child was delivered by axis traction with the face to the pubes. This was the only still-born case in the series, the death being due, perhaps, to compression from delivery with the occiput posterior, as the fœtal heart was heard before the operation. The other children were discharged well with the exception of one case, who died as a result of an imperforate rectum.

The remaining high forceps case was in a multiparæ with a mitral cardiac lesion with resulting extensive anasarca and pulmonary œdema, causing much dyspnœa and cyanosis. The child presented at the brim, mentum left anterior, and was delivered by forceps with that presentation. No ether was given on account of the condition of the heart and lungs, and was indeed unnecessary, as the woman was unconscious and remembered nothing of the labor. The baby weighed eleven pounds, and both mother and baby are now living. The mother improved at once after the birth of the child. In all of the high forceps cases, the Braun-Simpson forceps was used, and was found amply long enough.

Podalic Version. — Five cases. In one the presentation was transverse, Sc. L. A., and the child (premature, weighing but two and three-quarters pounds) was delivered dead. In this case a constriction ring had formed, owing to prolonged ineffectual labor before the patient was seen, labor lasting sixty-nine hours. In a second case, version was performed on account of a prolapsed hand with O. L. A. position. The child was discharged well.

The three other cases were all posterior positions of the occiput; one an O. L. P.; another being an O. D. P., extended into a brow; and the third, O. D. P. The two latter presentations occurred in pelves, whose measurements were normal, the children weighing nine and nine and one-half pounds respectively. In both cases slight constriction rings of the uterus had formed, and both were difficult versions. In one case high forceps with axis traction was tried, but was unsuccesful, as the head refused to stay in the anterior position after manual rotation. The child was still-born. The other child died in twenty-six hours, probably from cerebral hæmorrhage due to the compression of the head in extraction. In the case where the presentation was O. L. P., measurements taken afterwards showed a slightly justo-minor pelvis,[8] and the patient afterwards admitted that craniotomy had been performed in previous labors. Version was difficult, and the extraction of the hips and abdomen of the child required much exertion. Both legs had to be drawn out before the buttocks could be brought down to the vulva. Craniotomy was performed on the aftercoming head, the various manual methods of extraction and high forceps with axis traction all proving unsuccessful. The child, a male, weighed ten pounds. The mother made an excellent recovery, with the exception of an apparently "nervous" temperature, lasting three days, and previousiy referred to.

All the mothers in these cases of version were multiparæ.

Three difficult cases of breech extraction alone remain to be considered; the ten other breech cases on the list were either left entirely to nature, or were easily assisted into the world. One of the three cases was in a primipara, twenty-eight years old, who had been in labor forty-nine hours, and was becoming exhausted. The position was S. D. A., and both Bandl's ring and a constriction ring were present. Traction, with the finger in the groin, being unsuccessful, a leg was drawn down, and the child (weighing seven pounds) was delivered living. The child died in two hours; autopsy showed cerebral hæmorrhage. In the second case, in a multipara thirty-three years old, the breech presented high, S. L. A., but was easily drawn down; craniotomy was done on the aftercoming head, on account of an enormous hydrocephalus. Spina bifida also existed. In the third case, a multipara thirty-six years old, with a slight general contraction[9] of the pelvis, the breech was at the brim,

[3] Between anterior superior spines, 9 in.; external conjugate, 6.8 in.; diagonal conjugate, 4 in.; height of symphysis pubes, 2 in.

[4] Boston Med. and Surg. Jour., cxx, No. 13, p. 308.

[5] Between anterior superior spines, 10 in.; between crests, 11 in.; external conjugate, 6.4 in.; diagonal conjugate, 4.2 in.; true conjugate, 3.8 in.

[6] Between spines, 9.5 in.; between crests, 10.75 in.; internal diagonal, 4.5 in.; internal conjugate, 4 in.

[7] Between spines, 22 cm.; between crests, 26 cm.; internal conjugate, 18 cm.; diagonal conjugate, 11 cm.

[8] Between spines, 9 in.; between crests, 10.75 in.; external conjugate, 7.5 in.; internal diagonal conjugate, 4.75 in.; estimated true conjugate, 4 in.

[9] Between spines, 9.25 in.; between crests, 11 in.; external conjugate, 7.5 in.; diagonal conjugate, 4.75 in.; height of symphysis, 1.75 in.; true conjugate, 4 in.

S. D. P. The breech forceps was applied unsuccessfully, but the breech was delivered by drawing down a leg. The head was arrested high, but was finally delivered with forceps and axis traction rods, manual extraction and forceps without the rods having been tried unsuccessfully. The child was discharged well. These two latter cases have already been reported by me to this Society.[10]

It is unnecessary to repeat that the mothers in all the operative cases were discharged well.

THE VALUE OF SALICYLATE OF SODA IN DYSMENORRHŒA, WITH CASES.[1]

BY EDWARD REYNOLDS, M.D., AND GEORGE HAVEN, M.D.

THE symptom dysmenorrhœa, has always been one of the opprobria of gynecology, for the reason that, though in certain cases it seems to be dependent upon distinct pathological conditions, and can frequently be relieved by treatment addressed to these affections, yet in others its presence is unexplained by any appreciable local lesion, and in most cases the relief, even if attained, is apt to be imperfect or delayed. In considering any such affection, the treatment must be divided, into that from which immediate relief is expected and that which is intended to produce an ultimate cure; to the latter portion of the subject, we have nothing to add, and wish to confine ourselves in this paper to a consideration of the value of the salicylate of soda in the production of an immediate, though temporary, relief of pain. That the habitual pelvic pain of women, is perhaps the last disease in the whole list of human ailments for which opium may be freely prescribed, would probably be agreed to, by every one; and the long list of other drugs which have been successively recommended as substitutes for it, is, in itself evidence of their comparative inefficacy. Having been much dissatisfied with the action of the drugs in common use, we were very ready to accept the suggestion made to us last spring by Dr. R. W. Lovett, soon after the publication of his paper on "The Use of Salicylic Acid in Chronic Tuberculous Joint Disease," in that we should experiment with the same drug in the treatment of dysmenorrhœa, and to this end we have used the drug in all cases of menstrual pain, which have come under our observation during the last four months in the Staniford St. Dispensary for women, and the Gynecological Out-patient Department at the Boston City Hospital.

The present paper is an attempt to tabulate the results of treatment in those cases, fifteen in all, in which the menstrual pain was so severe as to be the chief symptom, and the reason for the patient's appearance at the clinic. This restriction has made the series small, but we are inclined to think that the report of a few well-marked cases in which the effect of coincident treatment could be eliminated, is of more value than a more diffuse report, of a larger number of less definite cases.

From these fifteen cases, two should be excluded on the ground that the relief may be, in part, ascribed to a general improvement due to other treatment. One of these was a case of general pelvic congestion, with an anteflexed cervix and an ill-developed uterus, the patient was packed on alternate days, and was given salicylate of soda; and the next catamenia was for the first time painless. The second, a case of stenosis of the internal os, was treated by the use of dilators, and the salicylate of soda was administered in anticipation of the catamenia, with marked relief of pain; but in neither of these cases does it seem safe to ascribe the improvement to the use of the salicylate of soda alone.

Of the remaining thirteen, three were found to have anteflexion of the cervix, three had catarrhal salpingitis, one was the subject of a membranous dysmenorrhœa, (?) and one was affected with a bad endocervicitis; making eight cases in which a cause for the existence of the pain was found. Of the others, in two the pelvic organs were thought to be normal; in two no examination was made; and in the remaining case symptoms apparently due to a cystocele and a slight prolapse of the uterus were relieved by a pessary, without effect upon the very severe dysmenorrhœa, for which no cause was found; in all, five cases in which the symptoms were unexplained.

Of the three cases of anteflexion, one was not improved, one was partly and one completely relieved; no other treatment having been employed. The three cases of salpingitis were all promptly and completely relieved so far as their dysmenorrhœa was concerned; although the improvement in the local condition was much more gradual and less marked. The case of membranous dysmenorrhœa was somewhat but not wholly relieved, by her first experiment with salicylate, which she has not had time to try again; the patient with endocervicitis said on her next visit, that she had "come round without knowing it, a great change." She continues its use, and remains well. Of the five unexplained cases, both patients with apparently normal organs were completely relieved, the case of cystocele and prolapse with dysmenorrhœa from unknown cause, was also completely relieved; of the two who were not examined, the pain was wholly controlled in one, while the other was unrelieved. This latter patient was suffering from a sharp attack of probable subacute pelvic peritonitis, and was possibly not a fit subject for the experiment, but is added to the list for the sake of fairness.

In conclusion: of the thirteen cases, nine were completely, and two, partially relieved; while in two the treatment was without effect. In two of the cases (one normal, one of salpingitis) the omission of the salicylate was followed by a return of the pain, and at the next catamenia its resumption resulted in a painless flow. The gratification expressed by the patients has been so great, and we ourselves have been so much satisfied with the use of the drug, that we have ventured to report this small series of cases, in the hope of provoking further observation of its value, and especially of the best method of administration. It was given to all our cases in ten-grain doses, t. i. d., for the week which preceded the catamenia, and continued until the time when the pain usually disappeared; but it is an open question whether the same or larger doses given during a shorter time might not have been equally or more effective. We are unable to judge whether any permanent benefit resulted, and we wish to say that we ourselves consider this report as a mere preliminary to further observation, which with a larger number of cases may, of course, largely alter the proportion of relief obtained.

[1] Read before the Obstetrical Society of Boston, October 12, 1889.

[10] Boston Med. and Surg. Jour., cxx, p. 5.

Clinical Department.

CASE OF PANCREATIC HÆMORRHAGE.[1]

BY F. A. HARRIS, M.D., BOSTON.

SUSAN E——, age 35; occupation, domestic. The history of this case is, from the surroundings, necessarily meagre. This woman, who at the time was not living with her husband, had, in the forenoon of September 18th, visited the employment office of a Mrs. Pierce on Washington Street, in search of work. From the time she left there (about noon) till nearly the time of her death, nothing could be learned of her whereabouts. At about six o'clock the same day she was seen in Stillman Street, and is said to have been seen to fall once; and a discoloration about the left eye gave plausibility to the statement, but examination showed that this discoloration was the result of a blow considerably antedating the 18th. At all events, she was known to have sat down in a doorway in Stillman Street, and complained of feeling ill. Witnesses could not remember that she complained of any distinct symptom, only that she complained of feeling very ill generally. The patrolman was called; and he rang in for the patrol wagon, into which the woman was placed, and in which she died on the way to the station-house. As there was a slight smell of alcohol about the woman's breath, and as she looked as if she belonged to the class known in police circles as "rounders," the case was regarded as one of the frequent deaths from excess of alcohol in consequence of general œdema of brain and lungs in subjects who have a greater or less degree of fatty infiltration of the heart. Such, however, was not the case.

The autopsy made on the morning of the 20th, showed pancreatic hæmorrhage. The body was that of a very well-nourished woman of about thirty-five years. There was a superabundance of adipose tissue. Aside from the discoloration about the left eye, previously mentioned, and which was the result of a blow received at least three days previous to death, there was no external mark of violence. The skull, brain and membranes presented no unusual appearances. The heart was nearly empty, and the little blood therein contained was fluid. The organ itself was apparently healthy. There was no atheroma of the aorta, or other disease of blood-vessels, observed. The right lung was moderately œdematous, and both presented a faint odor of alcohol. The periphery of each lung presented, in the lower lobes, extravasations of blood into the tissue, of size varying from that of a filbert to that of an English walnut. The right lung presented three of these extravasations, and the left lung two. Otherwise nothing unusual was observed in the lungs. There was hæmorrhage into the splenic end of the pancreas; the whole of this third of the organ being infiltrated with blood, which was easily expressed on section.

There was also a small amount of blood effused into the subperitoneal tissue, extending nearly to the suprarenal capsule. The whole amount of blood was apparently not more than a drachm and a half, by estimate. In gross, the pancreas presented otherwise nothing unusual. It was not enlarged, nor were there any gross appearances of fatty degeneration, or abscess or embolic infarction. The other organs were apparently normal and healthy.

[1] Read before the Boston Society for Medical Observation, October 7, 1889.

New Instruments.

A COMBINED NASAL SNARE AND ECRASEUR.

BY FRANKLIN H. HOOPER, M.D., BOSTON, MASS.

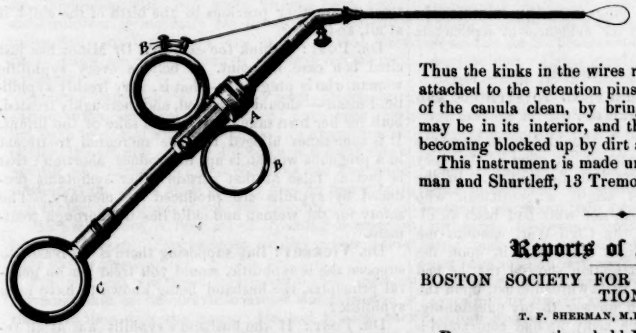
THIS instrument has been constructed, not from a desire to invent a new appliance or to modify an old one, but to supply a want which, on more than one occasion, I have felt painfully when operating in the nasal chambers for the removal of nasal polypi or of hypertrophied turbinated bodies.

The Jarvis écraseur is in principle an invaluable instrument. But I have found from embarrassing experience, that many of the contrivances sold in the shops are so delicately made as to be mere toys and practically useless. Only those who have had considerable operative experience in intra-nasal surgery can appreciate how very tough the hypertrophied bodies are, in some instances, and what great pressure is exerted on the wires in using the various forms of snares and écraseurs. The difficulties I have encountered in my own practice were owing to improperly made instruments. In one instance, an hypertrophied turbinated body, situated in the posterior portion of the nostril, was engaged in the wire loop. After several turns of the milled-nut it became arrested. The nut itself was so small that I had not strength enough in my fingers to turn it. There was only an apology for a cross-bar on the main canula, which I grasped by the fingers of the left hand, while I vainly endeavored to turn the nut with my right. I then took hold of the main canula with a pair of forceps, to steady it while the nut was turned with a pair of pliers. This succeeded for a few turns, when the small canula was forcibly rotated on the larger canula and so wedged that all attempts to move it were of no avail. I was then in difficulty at each end of my instrument and the situation was not a pleasant one. I finally extricated myself from my dilemma by twisting the instrument as a whole round and round, until it finally came off, thus finishing an operation which was painful to the patient and bungling and unscientific on the part of the operator. There would have been no difficulty in this case if I had had a well-made instrument. A strongly made écraseur is demanded in these cases for two reasons: first, the inherent toughness of the hypertrophied body itself; secondly (which is the more important), as the loop is gradually twisted home, certain fibres of the tissue are drawn into the end of the canula with the wires and there become firmly impacted. In one case I have had the wires cut through the distal end of the canula instead of cutting through the growth; in another instance the pressure on the wires was sufficiently great to snap off the retention pins to which they were attached on the proximal end of the small canula.

These accidents (and others which I might enumerate) happened to me several years ago; but since Messrs. Codman and Shurtleff made for me a Jarvis snare having strength where strength was required, I have had no further difficulty. This modified instrument, which I have used constantly for the past four years, has a cross or finger bar on the main canula, three centimetres long, by which it can be firmly grasped by the fingers of the left hand. The wheel by which the wire is caused to be drawn in, is two and one-half centimetres in diameter, so that it will turn comfortably. The screw-thread upon which the wheel turns

is flat on one side and is made of steel, to prevent wearing, as well as the possibility of any rotation of the small canula on the larger.

There is another class of cases, however, for which I have found the nasal instruments, at present known to me, absolutely inadequate. I refer to cases, where in operating with one of the ordinary forms of nasal snare, the wire loop has engaged a growth so tough and so firmly attached that it cannot be cut through by traction on the wires with the fingers and where it would not be wise or even possible to forcibly pull away the growth. In such instances, I have been obliged to remove the snare, leaving the wires, which were embedded in the growth, protruding from the nostril, and then attach them to the écraseur above spoken of, and so complete the operation. This procedure, — the changing of instruments in the middle of an operation, — is, at best, an awkward one, and sometimes even impossible, especially if steel wire is used. In this case, the kinking of the wire where it has been attached to the snare, prevents its being passed into the canula of the écraseur; and if we cut off the wire above the kinks, it will be too short to be passed through the canula and wound round the retention pins. Under these circumstances I have found that the only thing to be done, after removing the instrument, is to cut one end of the wire as close to the nostril as possible, and then, by pulling on the other end, draw out the wire, of course leaving the operation uncompleted. But here again we are apt to meet an obstacle. By our manipulations in removing the instrument, the wire may become twisted in the interior of the nostril, and its removal by pulling on one end, rendered impossible. The wire must then be got off, by continually twisting it round and round until it comes away, which is very clumsy operating. On more than one occasion I have been on the point of administering ether to the patient, in order to disengage the wire.



I have thus gone into somewhat tedious detail in order to show what accidents may befall one, in operating in the nasal chambers; accidents which have led to the construction of the instrument, which it is the object of this communication to describe. This "Combined Nasal Snare and Ecraseur" has certain advantages over any nasal instrument with which I am acquainted. It is made chiefly of steel, and has strength where it should be strong. Powerful without being clumsy, it is adapted to use in any condition of the upper air-tract where the cold snare or écraseur is demanded. With it, the accidents of which I have spoken could not take place. Its chief point, however, is that, in an instant it can be changed from a snare into an écraseur. In the event, therefore, of operating on a case where there is hypertrophied tissue as well as mucous polypi, if a mass of tough tissue is inadvertently engaged in the loop which is too adherent to be pulled off, the instrument may be converted into an écraseur and the operation completed neatly and quickly. It will also greatly facilitate the removal of posterior hypertrophies, inasmuch as the instrument has the proper nasal angle, and because the mass of tissue can first be caught by the snare, and then cut through by means of the écraseur.

The accompanying illustration represents the *half-size* and shows so clearly the simple manner in which a snare and écraseur can be combined in one instrument, that but a few words are needed to describe its mechanical working.

When the collar A is to the left, the rings BB may be freely moved up or drawn down, as in the ordinary nasal snares. On turning the collar A to the right, the screw-thread of the instrument becomes engaged, and the result is a perfect écraseur, the rings BB with the wire attached moving downward only as the screw is operated by turning the ring C. Canulæ of different lengths and curves may be substituted for the straight one for operations in the naso or lower pharynx or larynx.

With regard to the use and care of this instrument only a few words need be said, which, while they may seem elementary, are not without their practical value. In attaching the wires to the retention pins on the ring B, they are not to be wound separately around each pin, but should be wound together around both pins in a figure-of-8 manner. After using the instrument the wires should invariably be removed, not as would be the most natural manner, by pulling them out towards the operator, but in the opposite direction. Thus the kinks in the wires resulting from their being attached to the retention pins, tend to keep the interior of the canula clean, by bringing out any débris that may be in its interior, and the danger of the canula becoming blocked up by dirt and rust will be lessened.

This instrument is made under my direction by Codman and Shurtleff, 13 Tremont Street, Boston.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

T. F. SHERMAN, M.D., SECRETARY.

REGULAR meeting, held Monday evening, October 7th, at 19 Boylston Place, DR. B. JOY JEFFRIES in the chair.

DR. R. H. FITZ presented a consideration of the anatomical evidence explanatory of the method of origin of

ACUTE INFLAMMATION OF THE PANCREAS, ITS SYMPTOMS AND RESULTS.

His remarks were illustrated by specimens and microscopal preparations.

DR. F. A. HARRIS read the report of

A CASE OF HÆMORRHAGE INTO THE PANCREAS,[1]

upon which he had made a medico-legal autopsy.

DR. W. F. WHITNEY said: I think the profession, as a whole, owes a large debt of gratitude to Dr. Fitz for his treatment of this subject. Personally I have seen a good number of these cases, but until Dr. Fitz sifted them out in the order in which they should go, they were certainly a very blind series of cases. What relation the cases of suppuration or fat necrosis had to the hæmorrhage into the pancreas, and the relation of the latter to the acute pancreatitis, I do not think has ever been known so well before. Of course, Dr. Fitz has been fortunate in having rather a large supply of cases to work up, but until he sorted them out in this way they were, as I say, a very blind series.

DR. JOHN W. ELLIOT: I should like to ask what Dr. Fitz's explanation would be of the rapid death in the case Dr. Harris reported.

DR. R. H. FITZ: There is no other explanation which is in any way plausible except the one which is somewhat physiological. The idea is that death occurs in these instances from shock. In connection with the medical examination of cases of sudden death it is found that this hæmorrhage is the only conspicuous lesion. The rational explanation is that the hæmorrhage, occurring in that vicinity, produced either a paralysis or irritation of the cœliac plexus, so that the individual died from cardiac failure, as the frog dies in the experiments, when struck in the abdomen. Death is then attributed to cardiac paralysis. That is, so far as our present knowledge goes, the only explanation of any suggestive value in connection with the sudden death. The hæmorrhage is, in a certain number of cases, in the immediate vicinity of the ganglion; but it is quite possible that the effect may be due to a simple reflex process, without involving directly the ganglion cells. In the cases of hæmorrhagic pancreatitis, and gangrenous pancreatitis, the longer they live the more the evidences of septicæmia which occur.

DR. ABNER POST read a paper on

SOME CONSIDERATIONS RELATING TO SYPHILIS AND MARRIAGE.[2]

DR. FRANCIS MINOT: I should like to report a case. It has a double interest, in view of the very interesting paper we have just listened to. In the year 1867, if I recollect aright, a gentleman who had been recently married, and who had been an officer in the army during the Civil War, came to me for an abrasion with a slight crust upon it, upon the lower lip. Further investigation showed that he had a similar abrasion, with a little whitish crust, upon the prepuce. He told me, in answer to my questioning, that during his stay in the army he had contracted a chancre, and that the surgeon of the regiment had treated him; that all the local symptoms had disappeared; that he was assured by the surgeon that he was entirely cured and need give himself no apprehension whatever as to the consequence. Under this impression he married. Not long after his marriage (his lip being affected both at the time of his marriage and afterward, when I saw him), his wife had a similar appearance upon her upper lip. Following that was a series of symptoms, of which the principal were mucous patches upon the tongue and in the throat, loss of hair and eyebrows, and nasal intonations of the voice. The woman was at that time under the care of a female practitioner, and at that date we all know that there were none of any repute whatever in this city. The wife was a woman of a peculiar mental temperament, having great faith in the doctor, and it was impossible to treat her at first. At the earnest solicitation of her husband she consented for awhile to be under treatment, but she would continually revert to the female doctor, who had not the least suspicion of what the disease was, any more than the woman herself. She continued to grow worse, and very much to my horror, I found after a time that she was pregnant. After a very considerable length of time, she growing worse in every respect, she consented to place herself under my treatment, and follow out a proper course of medication. She was treated, if I recollect now, with mercurial inunctions and iodide of potassium: the husband was also subjected to the same treatment.

I was astonished at the rapidity with which she was cured, apparently. The symptoms disappeared; the voice returned; the nasal catarrh ceased; the lip healed up; the mouth became sound, and she was perfectly well. The husband also improved under treatment, and all his symptoms disappeared. In due time the woman was confined. The child appeared perfectly healthy at birth, and from that time up to the present, so far as I know, she has never had the slightest manifestation of any venereal disease. A second daughter was born two or three years after the first and is living at the present time, and so far as I know has never had any syphilitic symptoms.

DR. H. F. VICKERY: There is one question I would like Dr. Post to answer, and that seems to me a practical one — one that I have been asked about. Granted that a man who has had syphilis, has married and his wife has become pregnant, in what cases would he treat the mother previous to the birth of the child, if at all, and how?

DR. POST: I think the case that Dr Minot has just cited is a case in point. I believe every syphilitic woman who is pregnant — that is, very freshly syphilitic, I mean — should be treated, and thoroughly treated, both for her own sake, and for the sake of the infant. It is sometimes alleged that the mercurial treatment in a pregnant woman is apt to produce abortion; that is just as false as that certain other symptoms produced by syphilis are produced by mercury. The safety for the woman and child lies in thorough treatment.

DR. VICKERY: But supposing there is no reason to suppose she is syphilitic, would you treat her on general principles, the husband being known to have been syphilitic?

DR. POST: If the husband's syphilis was at all recent I should be rather inclined to put the woman on a mild course of mercurial, but that is one of those questions that cannot be categorically answered.

[1] See page 606 of the Journal.
[2] See page 603 of the Journal.

— A recent number of the *British Medical Journal* records, as having happened within five days of each other, a fracture of a thigh and of a spine, as the result of football. In the latter case the coroner's jury returned a verdict of "accidental death."

THE OBSTETRICAL SOCIETY OF BOSTON.

CHARLES W. TOWNSEND, M.D., SECRETARY.

Meeting October 12, 1889.

The first paper was by Dr. Edward Reynolds and Dr. George Haven on

THE VALUE OF SALICYLATE OF SODA IN DYSMENORRHŒA, WITH CASES.[1]

Dr. Edward Reynolds in reply to a question as to the theory of the action of this drug, said that they had used it entirely empirically as did Dr. Lovett in cases of hip disease. It is possible that some of the cases were due to a rheumatic diathesis, although they had made no inquiry into this.

Dr. Sinclair had used the drug in pelvic neuralgias as well as in neuralgias of other parts of the body, but had never used it in dysmenorrhœa, and he considered this addition of great value, if, by its use we can banish the use of alcohol and morphia in these cases.

Dr. Ingalls: In 1869 I reported three cases of dysmenorrhœa treated successfully by a mixture in which the ingredients, resin of guaiacum and corrosive sublimate were the acting agents; and in the majority of cases which have come under my care since that time I have prescribed the same, with the result of emphatic relief for about seven in ten cases (7¼ in 10).

Relief is not cure. Many cases slip out of observation after two or three months, but I can record eleven as having been questioned on the subject within the past year whose reports were highly gratifying. Seven of these were unmarried.

℞ (1) Resin of guaiacum	℥ i.
(2) Canada balsam	℥ i.
(3) Oil of sassafras	℥ i.
(4) Corrosive sublimate	℈ i.
(5) Alcohol	℥ viii.

M. Dissolve 1 and 2 in half the alcohol, and 4 in the other half.

Digest for fourteen days. Pour off the clear liquor: mix the two liquors and the oil.

In 328 drops there is one grain of corrosive sublimate, beginning with five drops twenty days before menstruation, thrice daily for three days; ten drops thrice daily for three days, and so on, so that about thirty drops are taken through the first day of menstruation.

Several remedies which have been proposed in various ways, legitimate and others, have been tried, but have been laid aside. I am glad to know from the reader, the efficacy of so well-known a remedy for so painful and harassing a complaint as the one under consideration, and I shall be very glad to prescribe it, and if the opportunity offers, will report.

My prescription is best taken by being dropped on lumps of sugar. The resinous quality causes adherence to the glass.

Dr. Strong was much interested in these cases, as the conditions of the pelvic contents was tabulated at the same time with the cases. He had himself used salicylate of soda largely for dysmenorrhœa as well as for other pelvic pains, and thinks there is no remedy to compare with it. He had wondered whether it might not act by relieving the congestion at these times. In the severe pain of acute salpingitis he had found it of great value.

His method of administration was to give fifteen grains every hour for three doses, which was generally sufficient for the day or even for the entire period. If not, he repeated the dose until he obtained the physiological effect of the drug.

He had found that the patients were often able to abandon its use for a certain length of time. Any local cause was if possible removed. Many, however, were obliged to keep the drug by them and resort to it occasionally. In the case of young unmarried women he thought it particularly valuable, where there was often slight antiflexion of the cervix or prolapse which became congested during the menstrual period. In these cases by relieving the pain with the salicylate the strength may be built up and the use of the drug will be then unnecessary.

He had had a large proportion of successful cases treated in this way and thought that the drug acted with more certainty on pelvic than on other pains.

Dr. Haven spoke particularly of one of the cases in the series; a young girl of nineteen years who had always suffered during the catamenia since the age of fifteen. The first time the drug was used last summer, she escaped the pain and has twice reported favorably since then.

Dr. Davenport had not used the drug in these cases and had had only fair results in the use of other drugs.

Dr. Boardman spoke of the use of the valerianate of zinc and Dr. J. Stedman, of that of the bromide of ammonium in these cases.

Dr. C. E. Stedman reported

A CASE OF INDUCED LABOR ON ACCOUNT OF ALBUMINURIA.

A primipara of fine figure and perfect health, due October 20th. Sudden œdema of face September 4th, with usual amount of swelling in feet, etc., no other symptoms except albumen and casts. Did very well under laxative pill, good appetite and sleep.

September 25th, sudden œdema of vulva in threefold tumefaction. Each labium the size of fist, very tense and painful, the medium swelling proving to be the enormously distended left nympha. These tumors having been pricked with fine cambric needles, drained off so fast as to penetrate the mattress. They, however, refilled. Urine nearly three pints daily.

On October 1st she had a faint turn and nearly fell; on the 2d, for an hour could see only half the nurse, and amount of urine somewhat decreased. Dr. Stedman determined to induce labor, strengthened by telephone consultation with Dr. W. L. Richardson. Evening of October 2d introduced bougie which had to be done under ether on account of painful condition of external parts and their swelling made it no easy task. No pains, but sweet sleep all night. October 3d, 10 o'clock, pains irregular but some of them violent and continued all day, expelling the bougie and having no effect on cervix, and they finally died away to begin again on the 4th, on evening of which day introduced another bougie, but the pains were obviously not those of labor, and at 2.30 on the 5th, he began to dilate the os manually, having the aid of Dr. W. P. Bolles. In 13½ minutes the cervix (which was ½ inch long and soft) admitted the closed fist. Then Dr. Bolles fixing the head above the brim, the long forceps was applied. Vigorous traction had no effect and Dr. Bolles affixed Reynold's tractors and the head moved at once. The child, a 5 lb. girl, was delivered at 3.40 P. M. alive. The placenta followed readily. There was a split in the anterior aspect of the cervix, none in

[1] See page 605 of the Journal.

the perineum. Patient rallied quickly from the ether. Twelve ounces urine drawn after delivery and found by Dr. Crowell to be largely albuminous with "casts, hyaline of large and small diameter and granular of a large size, fibrinous and waxy casts." 17 hours after delivery twenty-four ounces, only a trace of albumen, casts greatly diminished in number. On the 6th she passed seven pints two ounces, on the 7th, 142 ounces in which but a trace of albumen now remained and no casts. On the 8th, 190 ounces. After this the amount increased and the patient recovered without one bad symptom.

The points of interest seemed to be the failure of the bougie to do its work, and the polyuria which coincided with the rapid disappearance of the casts and albumen.

DR. EDWARD REYNOLDS thought that the failure to bring on labor by the use of bougies was not unusual and that in at least half of the cases, failure occurred. He recalled one case at the Lying-in Hospital, where incision of the os was required, owing to the spasmodic contraction caused, it was thought, by the use of the bougie. The same occurred to a more marked degree in a case reported by himself to the Society last year, and therefore, in future he would not persist in the use of a bougie if it did not at once bring on labor.

DR. GREEN had comparatively little confidence in bougies and certainly not where there was any hurry. In these cases the finger, he considered, the safest and best.

DR. SINCLAIR never used a bougie where it was necessary to induce labor, but always, since 1858 used the finger, than which there was no more perfect instrument, or one which so easily accomplishes the purpose.

DR. TOWNSEND read

AN ANALYSIS OF THE CASES OF LABOR IN THE OUT-PATIENT DEPARTMENT OF THE BOSTON LYING-IN HOSPITAL, AND OF THE BOSTON DISPENSARY, IN THE YEAR 1888.[1]

DR. GREEN said that when we consider that these cases were attended by some seventy-five different students in all, we can point with considerable pride to the freedom from septicæmia; and as this freedom occurred in crowded tenement houses where there were no antiseptic pads and sheets, it simply showed great antiseptic care in the fingers and instruments of the attendants. In this lies the essence of antiseptic treatment. If students under unfavorable conditions can work with such good results, we certainly should be able to obtain as good results in private practice.

DR. J. P. REYNOLDS, commenting on the cases delivered by axis traction, spoke of the great value of this principle and the undoubted fact that many children were saved by it which would formerly have been lost.

DR. COTTING mentioned cases of what was formerly always called puerperal fever, now so generally spoken of as puerperal septicæmia, and had seen, it seemed to him, two very distinct epidemics of this disease.

Rounder. — "Bondley's wife is going abroad I'm told."

Giltedge. — "She's going to Italy for her lungs."

Rounder. — "Is that so! American lungs ain't good enough for her, are they?" — *Lowell Mail.*

[1] See page 603 of the Journal.

NEW YORK NEUROLOGICAL SOCIETY.

MEETINGS of November 5th and December 3d, 1889, DR. GEORGE W. JACOBY, President, in the chair.

In March, 1887, a Commission — consisting of Dr. E. C. Seguin, *Chairman;* Dr. M. A. Starr, *Secretary,* and Dr. W. R. Birdsall; together with two ophthalmologists, Drs. W. O. Moore and David Webster; and two other gentlemen nominated by Dr. Stevens, namely, Drs. C. L. Dana and Frank P. Foster — was appointed by the Society to investigate, in conjunction with Dr. G. T. Stevens, the treatment of ocular irritations as a therapeutic measure in certain neuroses. This Commission presented its report on the

TREATMENT OF EPILEPSY AND CHOREA BY THE CORRECTION OF OCULAR DEFECTS,

in November, the discussion being concluded at the December meeting. Immediately preceding the reading of the report the following protest was presented by DR. G. T. STEVENS:

"I respectfully protest against the reception of the report now announced, for the reasons: (1) That the Commission having failed to perform the part of the agreement upon which the report is to be founded, the report is not now in good order; (2) Because the report is not a report on the proposition; (3) Because the report is inconsistent with the facts and is misleading; and (4) Because it is an ex-parte report and objectionable in spirit and motive."

The President then called for the report of the Commission which was read by its Chairman, Dr. E. C. Seguin. The more important features of this report were as follows: After a plan of proceedings had been agreed upon between the Commission and Dr. Stevens, the members began to send patients to the latter in April, 1887.

Each patient was examined by two neurologists, who agreed upon the diagnosis and compiled a history of the case. The patient was then sent with the history to Dr. Stevens who examined the ocular conditions. Subsequently, the ophthalmologists of the Commission examined the eyes, and reported their results to the Secretary, who added these notes to the copy of the history in his possession. When an operation was undertaken, notice of it was sent by Dr. Stevens to the Secretary, and he, in turn, notified the ophthalmological members, and also the neurologist who had furnished the patient. These members then attended the operation and noticed the conditions found in the eye before and after it, sending their records to the Secretary. Their non-attendance, however, did not prevent operations from being done, and the records of these operations, as well as records regarding prisms and glasses prescribed by Dr. Stevens for the patient, the Commission had been unable to obtain from him.

The patients from time to time visited the members of the Commission by whom they were sent to Dr. Stevens, and notes of the conditions found were made and sent to the Secretary. In the cases of epilepsy the record of attacks had not in all cases been kept in duplicate, Dr. Stevens having the records on the blanks furnished by the Commission, and in these cases the records had not been accessible.

The total number of patients examined by the Commission and sent to Dr. Stevens for examination was twenty-eight, twenty-five epileptics and five cases of

chronic chorea. All were found to have ocular insufficiencies; five were withdrawn without any treatment; three, a month after examination; one, two months after; one, three months after; two, four months after; one, five months after.

The reasons for withdrawal were as follows: Five were unable to attend regularly. Two were declined by Dr. Stevens on the ground of organic disease. Five were withdrawn by mutual consent of member sending case and Dr. Stevens for satisfactory reasons, such as non-attendance. Three were discontented because of increased symptoms.

Hence of the twenty-eight cases there were only fourteen who were treated for four months or over, and these were the only ones available for conclusions. These cases were tabulated as follows, showing the duration of treatment, the date at which the patient was sent to Dr. Stevens, the date of the last report of the condition of the patient and a statement of the apparent result of treatment:

Case.	Duration of treatment.	Date of first visit.	Date of last report.	RESULT.
Chorea.....	30 months.	April, '87.	Oct., '89.	Much improved.
Epilepsy....	30 "	" '87.	" '89.	Not improved.
Epilepsy....	5 "	May, '87.	" '87.	Improved.
Chorea.....	29 "	" '87.	" '89.	Slightly improved.
Epilepsy....	21 "	Jan., '88.	" '89.	Not improved.
Epilepsy....	4 "	Mch., '88.	July, '88.	Unknown.
Chorea.....	8 "	" '88.	Nov., '88.	Not improved.
Epilepsy....	12 "	" '88.	Mch., '89.	Improved.
Epilepsy....	5 "	April, '88.	Sept., '88.	Not improved.
Chorea.....	18 "	May, '88.	Oct., '89.	Not improved.
Chorea.....	10 "	July, '88.	May, '89.	Improved.
Epilepsy....	6 "	April, '89.	Oct., '89.	Slightly improved.
Epilepsy....	5 "	May, '89.	" '89.	Not improved.
Epilepsy....	5 "	" '89.	" '89.	Not improved.

The results could then be summarized thus:

Chorea, cured, none; much improved, 1; improved, 2; unimproved, 2; unknown, none — total, 5. Epilepsy, cured, none; much improved, none; improved, 3; unimproved, 5; unknown, 1 — total, 9.

Some analysis of the results were necessary. It was evident that six cases were put down as improved. Of these, three had been presented to the Commission by Dr. Stevens from his private practice, and no exact data had been obtained regarding them. This was especially to be regretted as the exact degree of improvement could not be ascertained. In the other three reported as improved, the first improvement began in one after thirty weeks, and the patient had never been entirely free from chorea for one month; she had at times been better under the ocular treatment, at times worse, even now having choreic movements, usually before menstruation. In another the chorea was only slightly less than at the outset. The sixth case, an epileptic, was having about the same number of attacks as she had had under bromide treatment, but far less than when she had no treatment whatever.

As regards those not improved, many of the patients would say they felt better in spite of the written records proving the increased frequency of the attacks. This was in part due to increased hope and confidence in the success of the treatment and also to the freedom from depression of mind and bodily functions produced formerly by the use of bromides. Others had complained much of headache and vertigo which had appeared during the treatment, and in several a condition of diplopia had been produced and now remained. A few of the patients had been made exceedingly miserable by the great increase in frequency and severity in the attacks; which had finally necessitated an abandonment of the ocular treatment and a return to drugs. This statement applied to a number of cases which had been withdrawn.

It should be noticed that none of the cases having been cured, all remained indefinitely under treatment, a perfect permanent ocular equilibrium not having been secured in any case. If it were impossible to secure such equilibrium, a cure could not be expected, granting the theory of Dr. Stevens. If it were possible to secure such equilibrium it was to be supposed that it could be secured in at least two years; yet four of these cases had been under constant treatment for two and one-half years without this result.

The following paragraph in the report represents the final conclusions of the committee:

"In view of these facts your committee cannot but express the opinion that as far as this investigation has warranted a conclusion, the method of Dr. Stevens does not afford a sufficient degree of relief to patients suffering from chorea and epilepsy to warrant its adoption or recommendation to the members of the Neurological Society as a means of cure or as the sole therapeutic measure."

DR. STEVENS then read a reply to the report of the Commission of which only the outline can be produced here. He said that whatever might have been the original condition of the majority of the cases sent to him during the first year, it was certain that they had long ceased to be cases of functional disease. While as a matter of fact, every one of these unfortunates belonged to the class of incurables by any of the ordinary methods of treatment, and while they had grown worse under such treatment continued during many years, they had in every instance under the present mode of treatment materially improved in health and in respect to the special diseases for which they were treated. All this improvement had been brought about without recourse to the deadening results of bromides or the toxic effects of enormous doses of arsenic. The following is a summary of the salient features of Dr. Stevens's reply:

"From the beginning, the Commission entered upon its work in a manner entirely inconsistent with the true spirit of inquiry. It pursued it in a manner calculated to induce vexation, misunderstanding and controversy. It occupied many months in securing a few cases and has never yet complied with its own stipulations. It has through more than two years occupied itself in selecting the most unfavorable cases for treatment and has taken the favorable cases to itself. The spirit of the report is calculated to produce prejudice and tends to mislead. The report is now made in violation of every principle of right or fairness. The report is represented as an investigation of two diseases and not of a principle, in direct violation of the pledges of the Commission. The Commission has repeatedly sent cases well known to be unsuitable for the inquiry and has, contrary to the articles of agreement and contrary to the private promises of members, in this report paraded these cases in long detail with the effect of misleading the judgment of those who are unacquainted with the facts. It has reported the results of treatment of the cases by minimizing the importance of the malady at the beginning of treatment and by magnifying all the unfavorable conditions now

existing. The results represented are not in conformity with the actual facts, but are grossly at variance with them. It has reported as resulting from treatment unfavorable ocular conditions which do not exist, and has in this respect made mistakes, which, by ordinary care, should have been avoided."

DR. HAMMOND had seen eight of the cases described in company with Drs. Weir, Webster, Ranney and Amidon the day defore the meeting. The patients and their friends all admitted that the cases had been improved very much by Dr. Stevens's treatment, a fact which was at great variance with the statements made by the same patients to the Commission.

DR. SEGUIN said that part of Dr. Stevens's remarks which reflected upon the fairness and integrity of the Commission needed no reply, the names of the members of the Commission being a sufficient answer. Dr. Stevens's statements as to the evil effects of the arsenical treatment of chorea, and of the bromides in epilepsy, appeared to pander to popular prejudice, and were altogether unwarranted by fact. Some clinical experience and knowledge of practical therapeutics would have prevented such expressions. Arsenic was almost never harmful to choreic patients, and the evils of bromism could be prevented and corrected by watchful management and appropriate associated treatment.

It was true that the Commission had had the greatest difficulty in inducing patients to undergo the treatment, but their failure to obtain twelve cases within the first few weeks was not through neglect or violation of the agreement. It was simply an impossibility to supply the necessary material in a given time: enough had been furnished in all. Dr. Stevens, in not furnishing data as to the course and progress of the cases as stipulated in the agreement, had violated the compact. The report had no personal animus and was not made up of the ideas of any one or two members. It expressed the opinions of all of the members of the Commission, even of those selected by Dr. Stevens himself.

As regarded the statements of friends and relatives in medical investigations, these should be received with scientific doubt, particularly when they differed from the facts as shown by the Commission.

As far as his own cases were concerned, one had been nearly killed by the ocular treatment involving the omission of bromides, passing into a status epilepticus, but improved again under bromides. Another had been under ocular treatment for fifty-two weeks before improvement became marked. Another, the girl with chorea, showed no tangible improvement until after the lapse of seven months. His own experience in cases of chronic chorea, even when of five to seven years' duration, was that they were not merely improved very soon under arsenical treatment with rest in bed, but as a rule, cured in from two to three months. This girl, though improved under the ocular treatment, had now transient diplopia for far and near, while the second case alluded to, saw double at the present time on looking to the right. The improvement in these (which were the best of the series) could not, therefore, be ascribed to the ocular treatment, but was to be attributed to improved health and time. Dr. Stevens had reported fifty per cent. of cures of epilepsy in his own (former) series of cases, but in the cases examined by the Commission there was not one. Moreover, he had reported his cures as taking place in a few weeks after beginning the ocular treatment, while in these cases where improvement of any kind had taken place, many months had been required before decided change had been manifested.

DR. STARR, in regard to the remarks made by Dr. Hammond, referred to the records of the cases already read to the Society, which demonstrated in each case an increase in the number of attacks, in some of them to three times as many as formerly. It was well known that the statements of epileptics were unreliable concerning their own seizures, and in several of cases it was evident from their own records of their attacks that any statements they had made that they were better were in direct opposition to the real facts. The recollections of such patients regarding their past states could not be considered as at all comparable with the actual observations taken during such periods.

In one case pronounced by Dr. Webster as normal ophthalmologically, and in every respect a purely functional case, Dr. Stevens claimed to have found optic atrophy and called it an organic disease.

DR. BIRDSALL had seen an epileptic, one of the cases mentioned by Dr. Hammond as having reported improvement to him, and whose sister corroborated the patient's statement. He had asked the sister why she had made this statement. She had replied that she did not refer to the number of fits, which was unchanged but meant that the patient seemed to be brighter without the bromides. The record showed, however, that the number of attacks had increased, and that the patient was in reality much worse under Dr. Stevens's treatment.

DR. DANA said he had been appointed on the Commission by Dr. Stevens himself, and felt that he represented him in a measure, but naturally his chief object had been to obtain the exact truth in the matter. He had sent twelve cases of his own to Dr. Stevens, and had tried hard to get others to go; but he had seen no case much improved under Dr. Stevens's treatment. One case seemed to be improved, but he could not feel sure that improvement was due to the ocular treatment. He had lost most of his faith in it as a therapeutic measure. We ought, however, to pay some tribute to Dr. Stevens for perfecting the technique in his procedures, even though he had pushed his theory to extravagant conclusions.

DR. STEVENS said that when the investigation was commenced, cases were accepted by the Commission which ought never to have been taken. One was a pronouncedly organic case, and in fact, not one of the cases was functional.

DR. WEBSTER stated that the diplopia now existing in one of Dr. Seguin's cases did not amount to much. It was trivial. He had seen Dr. Stevens operate many times, and had learned very much from him as to the technique in the treatment of insufficiencies. Dr. Stevens had, moreover, greatly improved the nomenclature in this direction. Not being a neurologist, he did not feel able to judge of the therapeutic effects of the operations in these cases.

DR. STEVENS said that the operative technique was exceedingly delicate and difficult, and that the greatest skill was required, such that he did not claim yet to have himself attained; but the more skilful the operator becomes, the more valuable will prove to be this therapeutic measure.

DR. L. C. GRAY, had listened with interest to the report and its discussion, and was wholly unprejudiced on either side. He did not believe that Dr. Stevens

had substantiated his serious charges against the Commission, or caused any particular improvement in the cases. Esquirol showed in 1828, that temporary improvement took place in all cases of chronic epilepsy in La Salpetrière, when treated by drugs known at that day. A decrease of from six to three fits daily could not be considered a permanent improvement, because such decrease was often spontaneous, and in some cases fits spontaneously ceased for years. He agreed with Dr. Seguin that where improvement did not begin before fifty-two weeks after treatment had been begun, any improvement that might take place could not fairly be ascribed to the measure employed. If Dr. Stevens had claimed merely that headaches and other trivial neuroses had been relieved by his method, many of the gentlemen present would have coincided with him, but he had undertaken too much, and was extreme in his claims. The same therapeutical principle underlay his system as that of Sayre, who cut prepuces, and that of the English surgeon who amputated clitorides for the cure of the slighter neuroses.

DR. AMIDON said that he had been invited with a number of others by Dr. Ranney to see the cases described at Dr. Stevens's office, and they had the complete histories of the cases at the time upon which to form an opinion. He intended to oppose the acceptance of the report of the Commission, for it was clearly apparent that Dr. Stevens had brought about some improvement in these patients without resort to medication, which was more than any of us could do.

Dr. SEGUIN said with reference to the work done by Dr Stevens, all of the members of the Commission had appreciated it highly, and felt like adding something commendatory of his skill to the report, but refrained from so doing because, under the circumstances, it might have appeared hypocritical, and was really alien to the subject assigned to the Commission, namely, the determination of results.

DR. J. L. CORNING thought that Dr. Dana's tribute to the good work done by Dr. Stevens was in exceedingly good taste. Dr. Stevens's work was unusually scientific and original, and there seemed to be very little of that sort of work done in New York, where compilation and the importation of foreign ideas were the order of the day. Hence this discovery of Dr. Stevens ought to meet with wide recognition.

A motion to adopt the report of the Commission was then carried by a vote of five to four out of the eighteen members present, the members of the Commission refraining from casting their votes.

The following motion made by DR. AMIDON was unanimously carried:

"That the thanks of the Society be extended to Dr. Stevens, for the assiduous labor he has devoted to the work of the Commission, and that the Society assure Dr. Stevens that it highly appreciates the ingenuity and technical skill he has shown in the prosecution of his method."

(Report, giving other proceedings of the Society, to be continued.)

— Dr. Balmanno Squire, of London, notes in the *British Medical Journal* (November 30th) his success in the treatment of diabetes by phosphorus, applied for eczema in a glycosuric subject. The dose at first is one-tenth of a grain, increased to one-fifth of a grain three times daily.

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TREATMENT OF EPILEPSY AND CHOREA BY THE CORRECTION OF OCULAR DEFECTS.

AT the last two meetings of the New York Neurological Society, there was presented and discussed a report on the "Treatment of Epilepsy and Chorea by the Correction of Ocular Defects." This report emanated from a Commission appointed by the Society in March, 1887, to investigate, in conjunction with Dr. G. T. Stevens, the "treatment of ocular irritations as a therapeutic measure in certain neuroses." The Commission consisted of three neurologists and two ophthalmologists, to whom were added two other gentlemen nominated by Dr. Stevens himself. The report, which it will be noticed covers a period of two years and a half, may be found in full with the discussion in another part of this issue of the JOURNAL. It is a subject of considerable general interest, on account of the extraordinary claims previously made as to the results obtained by the treatment of ocular irritations in a great number and variety of nervous derangements (Dr. Stevens reported fifty per cent. of *cures* of epilepsy in a former series of cases of his own); and the report and discussion are worthy the perusal of the general practitioner no less than of the specialist. We therefore desire to direct especial attention to them.

Before its reading, Dr. Stevens protested against the report; but his protest is robbed of its force when we observe not only that the report is unanimous, but that his own nominees — only one of the two apparently being present at the meeting when the report was discussed — both accept the conclusions reached. Apart from this, however, the impartial mind can scarcely fail to be influenced by the weight of the names of the other members of the Commission.

Of twenty-eight cases of chorea and epilepsy under investigation, only fourteen were treated for four months or over; and these were the only ones considered by the Commission as available for conclusions. In summing up the statements made in regard to these cases, the report says; "It should be noticed that none

of the cases having been cured, all remained indefinitely under treatment, a perfect permanent ocular equilibrium not having been secured in any case. If it were impossible to secure such equilibrium, a cure could not be expected, granting the theory of Dr. Stevens. If it were possible to secure such equilibrium, it was to be supposed that it could be secured in at least two years; yet four of these cases had been under constant treatment for at least two years and a half without this result."

In view of these facts, the Committee embody the final conclusions reached in the following paragraph:

"We cannot but express the opinion that, as far as this investigation has warranted a conclusion, the method of Dr. Stevens does not afford a sufficient degree of relief to patients suffering from chorea and epilepsy to warrant its adoption or recommendation to the members of the Neurological Society as a means of cure or as the sole therapeutic measure."

In justice to Dr. Stevens, it should also be stated that the Neurological Society passed a vote assuring him of its high appreciation of the ingenuity and technical skill he has shown in the prosecution of his method. Moreover, it should be borne in mind that the report we refer to confines itself strictly to the consideration of the two neuroses, epilepsy and chorea. It is still possible that partial tenotomies may be of great advantage in a certain class of neurasthenics, though we are inclined to think that this class the unprejudiced ophthalmologist will find to be quite limited in numbers, as shown by the experience of Dr. Myles Standish, who, after reporting five cases, says: "I have been industriously looking for such cases for three years among all the clinical material at my command, and have only found three cases in addition to those reported. These three cases all refused operation. It is probable that such cases may be more numerous in neurological than ophthalmological clinics."[1]

SOCIAL AND SANITARY STATISTICS.[1]

IN his second Cartwright lecture, Dr. Billings treats quite exhaustively the "expectation of life," probability of life, mean age at death, average duration of life (the *vie moyenne* of Bertillon) and the difficulty in the way of getting exact statistics as a basis of calculations for life insurance, as well as the fallacies in many life-tables.

The sickness-rate, often so much more important to the health-officer than the death-rate, has thus far been exact only in selected bodies, such as sailors, soldiers, the police, railroad employés, beneficiaries from sickness in certain societies, inmates of reformatory, penal and educational institutions, etc., and only for a limited number of selected classes at selected ages. The United States census schedules, for 1880, at first deemed too imperfect for compilation, were, after re-examination, found to give probably a fair representation of certain facts, including the proportion of illness in males and females in June of that year. The compilation showed that for the total population over fifteen years of age, the number found sick out of every 1,000 living varied from 7.17 to 22.7 for males, and from 8.1 to 17.5 for females, or about 1⅛ per cent. of males to 1⅛ per cent. of females at a time of the year when there is probably the least amount of sickness among adults. The proportion of sick to 1,000 of population of different ages was as follows:

	Males.	Females.
15 to 25 years of age	6.9	6.8
25 to 35 " "	8.6	9.7
35 to 45 " "	12.2	11.5
45 to 55 " "	16.8	14.4
55 to 65 " "	25.5	20.4
65 " " and over	44.5	35.3

This corresponds, in a general way, with Mr. Finlayson's statistics with regard to the amount of sickness in members of friendly societies. He found that from the age of fifteen to eighty-five, an average of five years of sickness occurs to each man, but that during the period of labor, from the age of sixteen to sixty-six, there are about a week and a half of sickness to each year, the sickness from forty-two to sixty-six being almost double that of the first half of the period, or sixteen to forty-one, inclusive.

The voluntary collection of sickness-statistics on the part of physicians has thus far been only tentative and very incomplete. The recent laws requiring compulsory notification of infectious diseases will be of value for those diseases, but their success, Dr. Billings thinks, will depend upon two conditions: first, that the health-officer shall not be in any way engaged in, or connected with, private practice, so as to do away with all reluctance on the part of general practitioners reporting their private cases; secondly, that, to obtain any benefit from notification, special hospital accommodations for such forms of disease as are reported must be provided by the community; and there must be power of compulsory removal of patients to such hospitals in certain cases.

In attempting to estimate the influence of modern civilization upon the average duration of human life, or, for instance, the difference between the expectation of life in New York at the present day, and that in European cities from one to twenty centuries ago, Dr. Billings admits that the statistical records are very incomplete, vague and unsatisfactory. He agrees with the general conclusion that there has been a very great increase in the average longevity of man in civilized countries, not only within the last thousand years, but within the last century. But, it is only for the last forty or fifty years that we can speak with anything like scientific precision as to the amount of progress made. As regards the greatest duration of life possible in an individual, there is no evidence of any change in, at least, the last two thousand years. The evidence is sufficient, however, to prove that there has been an increase in the average longevity and

[1] The second Cartwright lecture, 1889, J. S. Billings, M.D., U. S. A.

[1] Paper read before the American Ophthalmological Society, July, 1889. Boston Med. and Surg. Jour., vol. cxxi, p. 250.

expectation of life at birth; but whether this fact be due to the preservation of more infant-lives for a few years, although they may still die before the productive period is reached, or to an increase of the number of those who live into and share the working period of life, is still uncertain.

The questions so important in our Southern States, whether the alleged great comparative increase in the negro and mixed population is real or dependent upon inaccuracies in the census of 1870, and whether their very high death-rate, as compared with the whites, indicates a greater mortality under the same or similar conditions, Dr. Billings feels compelled to reserve for decision until the results of the census of 1890 are reached.

NEURASTHENIA AND DILATATION OF THE STOMACH.

CARRON DE LA CARRIÈRE has published in the *Bulletins et Memoires de la Société de Médecine Pratique* an article of considerable interest on the subject of "Neurasthenia and Dilatation of the Stomach." He describes an aggregate of symptoms often associated with dilatation of the stomach, symptoms which have been sufficiently familiar under the name of nervous dyspepsia. There is a sensation of weight and distention of the stomach after meals; this is accompanied by flushing of the face, and a tendency to somnolence. These patients are apathetic, and seldom in trim for mental work; they are incapacitated for much physical exertion. Constipation is habitual. In bad cases the appetite is diminished or lost; digestion is painful and accompanied with pyrosis; and palpation and succussion give the characteristic signs of gastrectasia. Fatigue is a prominent symptom; exercise speedily tires. The eyes ache after reading a few minutes; there is a continual disposition to lie down; such patients are often more tired in the morning on rising than when they went to bed. They complain much of insomnia. Headache and backache are every-day phenomena. The extremities are cold and livid.

Carron hesitates amid the complexity of symptoms, and asks whether in these cases, which are only too frequent, the gastric alteration is primary, reacting on the organism, and bringing about in the long run, by failure of nutrition, the general dilapidation and the want of equilibrium in the nervous system, or whether one has to do with a primary neurasthenic condition in which the gastric phenomena predominate? He inclines to the opinion that there are two classes of cases: one in which the stomach is primarily affected, entailing on the organism perturbations; the other, in which "the neurasthenia commences, and the affection of the stomach completes the tableau."

Of course, the treatment would be widely different in the two classes, and an accurate diagnosis is imperative in order that successful therapeutic results may be obtained.

Dujardin-Beaumetz makes gastric neurasthenia the subject of a recent Cochin hospital lecture,[1] and of a subsequent communication to the Society of Practical Medicine. He believes that in the great majority of cases neurasthenia is of gastric origin, and that patients affected with this malady will be found to have all the symptoms of dilatation of the stomach. He insists on the emaciated appearance of these subjects, their bilious hue, their melancholic disposition, the odd, varying, nervous symptoms, which are not, however, those of hysteria; palpation gives a splashing sound; sometimes the liver is congested, and, when the dilatation is considerable, in most cases there is a right-sided renal ectopia. These persons are always dyspeptic and constipated. He mentions the various theories which have been proposed to explain the relationship between the neurasthenia and the gastrectasia, and inclines to that of Bouchard.

According to Bouchard, all the train of morbid phenomena depend on the penetration of the economy by *toxines*, which result from vicious fermentations taking place in the dilated stomach. These toxines produce a veritable systemic poisoning, and the passage of these organic alkaloids through the liver congests that organ, and gives rise consecutively to a crowding down of the right kidney, a displacement which tends to become permanent.

Beaumetz thinks that the dilatation of the stomach, which causes the nervous phenomena, will, in almost all cases, be found to be a hereditary malady; it results directly from a toneless, paretic state of the gastric muscle; subjects of gastrectasis will be likely to transmit a similar condition to their offspring.

In the treatment of gastric neurasthenia two leading indications must be kept in view: to restore the stomach and intestine to a normal condition, and to remedy the depressed nervous state.

The first indication is the most important to fulfil. It comprehends all pharmaceutical and other means for combating the development of toxines in the digestive tube, and for restoring tone to the alimentary canal. Among the pharmaceutical agents, the antiseptics: naphthol, salicylate of bismuth, etc., are especially useful. Dujardin-Beaumetz combines five grains of salicylate of bismuth with the same quantity of magnesia and bicarbonate of soda for one powder, to be given shortly before meals. Five grains of naphthol may be added to each powder.

Laxatives occupy an important place in the therapeutics of this malady, podophyllin, cascara, senna, sulphur, the purgative mineral waters are all recommended; the compound licorice powder is a useful preparation.

When the dilation is considerable, lavage of the stomach by means of the siphon is indicated; putrescent matters are washed out, and the stomach is disinfected by boric acid solutions (1%) or naphthol a, 1 per 1,000.

The dietetic treatment of gastrectasis comprises three indications: to reduce to the minimum the quantity of

[1] Bull. gen. de thér., November 30, 1889.

liquid ingested; to introduce food into the stomach only when that organ is freed from the remains of a former meal; to introduce the smallest possible quantity of ptomaines with the food. The first indication is fulfilled by a dry diet, only half a pint of liquid with each meal; no drink between meals. Soups, broths, milk, champagne, etc., strictly forbidden. To meet the second indication, only two meals a day are allowed, the one at 10.30 A. M., the other, at 7 P. M. No lunches. To meet the third indication, the diet should be mostly vegetarian. Little or no meat; all meats to be thoroughly cooked. Toasted bread instead of plain bread, well cooked vegetables and fruit are permissible; eggs are unobjectionable.

To combat the neurasthenia, various mechanical means, as abdominal belts and supporters have been advised by the School of Lyons. These help support the dilated, misplaced abdominal organs. Hydropathy, gymnastic exercises, electricity and massage give excellent results, but the stretched dilated viscera cannot be restored to their primitive shape and volume. The patient can, however, be much more comfortable, the tone and action of the digestive tube can be improved, and the general health made better.

MEDICAL NOTES.

—Sixteen young women were graduated as nurses from the Training School of the Women's Hospital, Philadelphia, December 11th.

— London is to have post-graduate courses from the combined material offered by the Brompton Consumption Hospital; the Hospital for Sick Children, Great Ormond Street; the Hospital for the Paralyzed and Epileptic, Queen Square; the Moorfields Ophthalmic Hospital; and the Hospital for Diseases of the Skin.

—James Brennan, of St. Louis, is a prisoner at Quarantine, and has been pronounced a leper. His friends do not believe the diagnosis to be correct, and several days ago petitioned for a writ of habeas corpus in order to secure his release. Health Commissioner Dudley was ordered to bring the body of Brennan into the Circuit Court, but it was supposed that the letter of the injunction would not be obeyed, and that the case would be settled on evidence and argument. To the horror of a packed court-room, the leper was brought in. He presented all the symptoms of the disease, and half the people rushed out of the room. Judge Valaint took one look at Brennan, and ordered him back to Quarantine in the custody of the city.

— The present status of "The Stillé Medical Library," of the University of Pennsylvania, consists of the original gift of Dr. Alfred Stillé in 1874, 3,035 volumes; of an additional gift in 1884 of 500 volumes and of contributions at various times by Drs. William H. Taggart, William Elmer, Joseph Leidy, Joseph Carson, H. C. Wood and others. The total number of volumes in the last recorded enumeration, in 1885, was as follows: Bound volumes, 5,760; unbound volumes and pamphlets, 4,800; total, 10,560. To these should be added the more recent gift received from Dr. William Pepper, including the greater portion of his own medical library, and a large number of books which formerly belonged to his father.

— Expectant practitioners report that they are beginning to reap the first fruits of the European epidemic influenza, both in Boston and New York. Certainly there are many bad head-colds, affecting in some cases several members of a family or a business community; but health authorities are not quite yet prepared to affirm it to be an imported rather than a domestic product.

— The following report from Deputy-Collector Gano to Collector Erhardt of New York, shows that the Collector is losing no opportunity to perfect the service, and that his doctor has accomplished wonderful results with some of the "invalids" in the service:

"The statement of absentees on account of alleged sickness herewith submitted, for the month of November, 1889, compared with that for six months from January 1 to June 30, 1889, while not as satisfactory as it would be if the two periods of time were of the same length and covered the same season of the year, shows, nevertheless, a marked improvement in regular attendance to duty that can only be attributed to the effect of the daily visitations of the physicians employed for that purpose. The number of days' absence from January 1 to June 30 (not including the Naval Office), was 5,087, or an average of 848 days per month, against 512 for November, a gain of 336 days in one month, or enough at the average salary of employés to pay a physician for one year. If this gain can be maintained through the entire year, it will amount to 4,032 days, representing not less than $16,000, a consideration that would seem to justify the continuance of the experiment of medical inspection.

"During the six months period the average number of days lost by each man was 7 91-100, while for the month of November the average per man was 4 65-100, a reduction of 3 26-100 per man. The average number of employés absent each day during the former period was 33 05-100, and during the latter, 21 33-100, an average daily reduction of 11 72-100.

"Other comparisons may be made showing results equally satisfactory, but the foregoing are sufficient to prove that the experiment of medical inspection is a decided success."

— The Medical Society of the State of South Carolina celebrated its one hundredth anniversary at Charleston, December 9th, by an oration in South Carolina Hall by Dr. Kollock, followed by a dinner at the Charleston Hotel.

The Medical Society of South Carolina ranks among the oldest of its kind in America; the three older than it being the New Jersey State Medical Society, founded in 1766; Massachusetts Medical Society, founded 1781; and the College of Physicians, Philadelphia, founded 1787. The initiatory step in the founding of

this society was taken by Dr. Peter Fayssoux. Dr. David Ramsey, the famous historian, and once President of the Continental Congress, and Dr. Alexander Barron were among the first members. The meetings were held at Williams Coffee House and at Harris Tavern, and were marked by a convivial flow of spirits of various kinds. As Dr. Michel, the historian of the Society, has remarked, the object of the organization was charity, and from this society as a parent have sprung the most noble charities of the city of Charleston.

For sixteen years its members maintained a voluntary personal dispensary system for the poor. The Shirras Dispensary system of the city physicians, Roper Hospital, and other institutions, quickly followed, and also later the Medical College. The Humane Society was another beneficial organization which took its origin in this society, and the Botanical Organization founded in 1805; also the Esculapian Society of Union District.

This society published one of the first medical journals published in America, the *Carolina Journal*, edited by Drs. Thomas Y. Simons and William Michel, published in 1822. The *Southern Medical and Surgical Journal* originated with Drs. J. Lawrence Smith and S. D. Sinkler, in 1845.

BOSTON AND NEW ENGLAND.

— The Harvard Dental School recently received a gift of $1,000 to be added to its endowment fund.

— The Maine General Hospital is made the residuary legatee of the estate of the late Dr. H. H. Hill of Augusta.

— The directors of the West End Street Railway have voted to engage free beds in the Massachusetts General Hospital, City Hospital and Cambridge Hospital, commencing with January 1, 1890, and that the general manager be authorized in his discretion to send employees to such hospitals.

— So many exaggerated and misleading stories have been sent out in reference to typhoid fever at Yale University, that the faculty on December 13th, had all of the buildings examined by George E. Waring the sanitary engineer, who reported that the buildings and their sanitary systems were in first-class condition, and that the sickness could not have been caused by unsanitary conditions of the dormitories.

— The Trustees of the Portsmouth (N. H.) Hospital have received for the proposed extension nearly $1,000, $250 being received from Professor James Barr Ames, of the Harvard Law School, whose wife and little boy were ill at the hospital a year ago, and whose gift was made (he writes) "as an evidence of our gratitude for the kind shelter and care that Mrs. Ames and our little boy found there."

— The Quarterly Meeting of the Rhode Island Medical Society was held in Providence, December 12th, with the following programme:

Dr. C. B. Davis, "Lobelia Inflata"; Dr. J. W. Keefe, "Two Cases of Empyema"; Dr. G. L. Richards, "A Case of Trephining for Fractured Skull"; Dr. A. H. Harrington, "Hysterical Manifestations in a Boy"; Dr. J. W. Mitchell (1) "A Case of Umbilical Hernia of unusual size," (2) A Case of Pedunculated Lipoma of the right Labium Major"; Dr. W. R. White, "A Case of Intermittent Fever in an Infant Three Weeks Old."

— The following advertisement cut from a daily paper seems to indicate a lack of worldly prosperity in the so-called Church of Christ:

NOTICE. — Any person who was a member of the Church of Christ, Scientist, Boston, at the time the lot of land on the corner of Falmouth and Caledonia Streets, Boston, was bargained for by said church, can now purchase the lot at any time within six days from the date hereof, for the sum of $5,100.

NEW YORK.

— It is gratifying to learn that for the week ending December 7th, the reports of the Bureau of Vital Statistics show the lowest rate of mortality in the city which has ever been reached in the period covered by the records of the Health Department.

— The President of the Board of Health, accompanied by Dr. W. A. Ewing, Sanitary Inspector, and some police officers of the Sanitary Squad, recently made a night tour of inspection of a considerable number of the cheap lodging-houses, of which there are said to be three hundred in the city, with a capacity of "accommodating" about twelve thousand lodgers. In consequence of this inspection the licenses of some of the worst of these places have been revoked by the Board of Health, as they are found to be over-crowded and in bad sanitary condition.

— The coroner's jury in the case of Harris, the Eighth Avenue salesman, who was killed by an electric light wire coming in contact with a show-case which he was assisting in carrying, has rendered a verdict which finds the Brush Electric Light Company wholly responsible for Harris's death. The finding also makes the following recommendations: (1) That the Board of Electrical Control and the Board of Health be requested to use extraordinary and speedy measures to have the wires of all the electric light companies of the city laid underground, and, (2) that the said Boards use all necessary care to have the wires and lamps of all the electric light companies properly insulated.

— During the past few months the subject of infantile diarrhœa has received much attention on the part of the Section of Pediatrics of the New York Academy of Medicine, and the meeting of December 12th, was wholly devoted to a further discussion of the matter. Dr. L. Emmett Holt read a paper on "The Anatomical Characters, Nomenclature, and Treatment of the Diarrhœal Diseases of Infancy," and in the discussion which followed, which was participated in by Drs. Jacobi, Caillé, Seibert, Baruch, Winters, the Chairman of the Section, Dr. J. Lewis Smith, and others, the dietetic treatment, the mechanical treatment by means of irrigation, and the use of opiates were the points principally enlarged upon.

— The fine new school-house at the corner of 104th Street and 10th Avenue, which was erected on the site of the old one, to the bad sanitary condition of which the death of one of the teachers last year was considered directly attributable by her attending physician, has just been occupied. It will accommodate about 2,500 pupils, and the first floor is to be used mainly as a play-room. Special care has been taken to provide the best light and ventilation, and the air-space per pupil is double that of the old school building. There are ample fire-proof stairways for reaching the street quickly, and the convenience of the teachers, as well as the comfort, health, and safety of the scholars, has been consulted in the construction of edifice. This is one of a series of five new school-houses in course of construction or already completed, all of which are intended to be models of their class, and are vastly superior to the old ones.

— At the twenty-first annual meeting and dinner of the Wesleyan University Alumni Association, held December 13th, it was announced that Dr. Daniel Ayres, of Brooklyn, had made the munificent donation of $250,000 to the endowment funds of the University. Dr. Ayres has always been a generous benefactor of his Alma Mater, and within the present year has already given $50,000 for the endowment of a chair in biology. This present large gift is designed to increase the efficiency of the various scientific departments of the University. Dr. Ayres was born in New York city, and after receiving his academic education at Wesleyan, was graduated in medicine from the medical department of the University of New York in 1844. He served for one year as interne at Bellevue Hospital, and then went to practice in Brooklyn, where he has resided ever since.

Miscellany.

EPIDEMIC INFLUENZA.

AT present the administration of the various governments of Europe, say the press dispatches, is completely demoralized by the prevalence of the influenza, and business of every kind is only carried on there under the most serious difficulties. Convicts have had to be put back because the judges were too ill to sentence them: more than half the postmen are prevented by sickness from attending to their duties. In one continental regiment alone forty per cent. of the men were placed *hors de combat* in a single day by the ailment. Theatrical stars fail to rise at night, or in the morning either, for the matter of that. Marriages and all other kinds of ceremonies and entertainments excepting funerals have to be put off. In Paris the employees of all the great retail dry-goods stores have been seized with "la grippe," as the French style the malady, no less than 670 cases having been reported on Wednesday in one establishment alone. The notion of 670 salesmen and saleswomen, all sneezing and coughing simultaneously in one shop, is something too awful to contemplate. Indeed, the paralyzing effects of the present epidemic can only be compared to those which occurred one hundred years ago, when, as a contemporary remarks, two great British fleets under the command of Admirals Lord Anson and Kempenfeldt were obliged to suspend their hostile operations on the French coast and to return to Spithead, owing to the men being completely disabled by influenza. Under the circumstances, it is to be hoped that our squadron of evolution, which has just sailed from Boston for European waters, may escape such a visitation. Most European capitals are now experiencing it with more or less severity.

SANITARY CONDITION OF JACKSONVILLE.

A CORRESPONDENT writes to the *Times Union*, of Jacksonville, Fla., criticising a recent statement of the Duval County Medical Society, that "the present sanitary condition compares most favorably with that of any city of its size."

Against this, the correspondent says: "But is it true? The declaration has been made repeatedly, and it is based upon irrefutable facts and figures, that the sanitary condition of Jacksonville is bad — very bad. It was demonstrated to be bad by Sanitary Expert Bowditch, whose opinion was to some extent reinforced by Engineer Johnson. . . .

"Col. Waring, a sanitary expert of international reputation, said in a paper which was read before the American Medical Association last June, that 'in a city whose sanitary arrangements are good, the death-rate ought not to exceed 12 per 1,000 per annum." And Dr. Billings, of the United States Army, declared that the census shows that the death-rate throughout the United States is 18 per 1,000 per annum.

"The mortuary records of Jacksonville disclose the fact that the death-rate for a month, beginning July 17th and ending August 17th, inclusive, was, amongst the whites, 49 per 1,000 per annum; for two months beginning July 17th it was 42; and for three months from the same date, it was 38. Among the colored people the death-rate was about the same.

"Another sanitary expert of national reputation, Mr. Charles Wingate, said recently, that 'the absolute and infallible test of the healthfulness of any given place is the ratio of deaths of children under five years of age to all deaths,' and that the ratio ought not to exceed 25%. Judged by that test, what do the records of Jacksonville show? The *Times Union*, of Sunday, December 1st, two days before the special meeting of the Duval County Medical Society, published the mortuary report for the month of November (which was cited by the Duval County Medical Society to show Jacksonville's remarkable healthfulness). This was the exhibit: 'Whole number of deaths 46; number of deaths of children under five years of age, 23 — a ratio of 50%. Comment is unnecessary."

FIXING THE STATUS OF ASSISTANT SURGEONS OF THE WAR OF THE REBELLION.

THE records of the Surgeon-General's office show that there were 5,532 Contract Surgeons, or as they were officially designated, Acting Assistant-Surgeons, of the United States Army who served in the War of the Rebellion. The form of entry into the service by these medical officers — many of whom were professors in medical colleges and editors of standard medical books — was not questioned as their country

needed their services, and they patriotically responded to its call in its hour of need, and went where they were ordered by their superior officers, agreeably to the United States Army regulations, which they were sworn to obey like other medical officers. They wore the uniform and insignia of rank of First Lieutenant, and performed precisely the same duties as Surgeons and Assistant Surgeons, and in a number of instances had charge of United States General Hospitals where their responsibility was very great. Section 4,695 of the Revised Statutes of the United States gives the Acting Assistant-Surgeons the same amount of pension as is given to a First Lieutenant of the military corps; but their only grievance is that they are deprived of whatever benefits a legal muster and an honorable discharge would entitle them to.

An endeavor is to be made to secure such legislation by Congress as shall fix the status of these men, and a bill is to be introduced into the present Congress by Senator Manderson of Nebraska. The bill is as follows:

Be it enacted, etc., that all Acting Assistant Surgeons of the United States Army, or Contract Surgeons who served in the War of the Rebellion, and whose services were honorably terminated, be commissioned as Acting Assistant Surgeons of the United States Army, the date of contract to be the date of commission and muster into the service, and the date when the service was honorably terminated, or the contract annulled, to be the date of discharge or muster out of the service:

Provided, that any expense attending the issuance of a commission as Acting Assistant Surgeon of the United States Army, be borne by the applicant for such commission.

It is stated that the corresponding medical officers in the Navy during the Rebellion, 447 in number, were regularly commissioned officers and the movement above referred to is to put the army medical officers on the same footing. Persons interested are invited to communicate with their congressional representative urging them to coöperate with the favorers of the bill.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 7, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	661	193	12.75	17.40	2.85	1.00	4.65
Philadelphia	1,040,245	352	118	12 60	16.96	.28	3.92	6.16
Chicago	830,000	325	132	17.67	7.75	.62	2.48	11.16
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	182	66	13.75	13.75	2.20	1 65	3.80
St. Louis	450,000	—	—	—	—	—	—	—
Boston	413,567	153	56	16.25	15.80	1.30	2.60	5.65
New Orleans	250,000	121	43	16.60	7.80	7.47	2.49	3.32
Cincinnati	225,000	110	—	14.56	12.74	—	.91	10.01
Washington	225,000	101	26	16.83	19.80	—	10.89	3.96
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	25	6	8.00	12.00	—	4.00	—
Charleston	60,145	27	11	14.80	11.11	14.80	—	—
Portland	40,000	16	4	12 50	12.50	—	6.25	6.25
Worcester	78,292	29	8	10.35	20.70	—	3.45	6.90
Lowell	71,518	39	13	17.92	12.80	2.56	7.68	7.68
Cambridge	65,552	22	6	13.75	22.75	—	—	13.75
Fall River	62,647	30	8	13.33	20.00	—	3.33	3.33
Lynn	53,334	18	0	—	16.66	—	—	—
Springfield	40,731	14	4	14.28	—	—	—	7.14
Lawrence	40,619	14	5	35.70	7.14	—	14.28	21.42
New Bedford	37,253	13	3	15.38	15.38	7.69	7.69	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	12	—	16.66	—	—	—	16.66
Brockton	28,813	—	—	—	—	—	—	—
Chelsea	28,167	7	1	—	14.28	—	—	—
Haverhill	26,058	4	0	25.00	25.00	—	25.00	—
Taunton	25,170	—	—	—	—	—	—	—
Gloucester	24,263	8	3	—	12.50	—	—	—
Newton	21,553	—	—	—	—	—	—	—
Malden	19,774	2	0	—	—	—	—	—
Fitchburg	17,534	9	0	—	11.11	—	—	—
Waltham	17,332	2	0	—	—	—	—	—
Pittsfield	15,502	3	2	66.66	66.66	—	—	—
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	8	1	—	50.00	—	—	—
Quincy	13,728	8	2	12.50	—	—	—	12.50

Deaths reported 2,505: under five years of age 701; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 329, consumption, 322, acute lung diseases 280, diphtheria and croup 146, typhoid fever 65, diarrhœal diseases 43, whooping-cough 23, scarlet fever 20, malarial fevers 14, measles 8, cerebro-spinal meningitis 6.

From whooping-cough, New York 11, Baltimore 3, Philadelphia, Chicago and Boston, 2 each. Cincinnati, Fall River and Springfield 1 each. From scarlet fever, New York 6, Philadelphia 5, Chicago 4, Boston 2, Baltimore 1. From malarial fevers, Baltimore and New Orleans 4 each. Chicago 3, New York 2, Philadelphia 1. From measles, New York 5, Cincinnati 2, Chicago 1. From cerebro-spinal meningitis, Washington 2, Chicago, Cincinnati, Nashville and Fall River 1 each.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,555,406, for the week ending November 30th, the death-rate was 19.0. Deaths reported 3,477: infants under one year of age 858; acute diseases of the respiratory organs (London) 345, whooping-cough 85, scarlet fever 63, measles 61, diphtheria 51, fevers 46, diarrhœa 37.

The death-rates ranged from 11 6 in Norwich to 32.0 in Plymouth: Birmingham 18 0, Bradford 20.0, Hull 25.1, Leeds 22.5, Leicester 14.6, Liverpool 22.1, London 17.4, Manchester 27.4, Nottingham 16.0, Sheffield 20.4, Sunderland 30.3.

In Edinburgh 22.1, Glasgow 32.6, Dublin 28.7.

The meteorological record for the week ending Dec. 7, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps: —

Week ending Saturday, Dec. 7, 1889.	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.		Velocity of Wind.		State of Weather.[1]		Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday,... 1	30.40	30.0	36.0	25.0	62	47	55.0	W.	S.W.	12	12	C.	C.		
Monday,... 2	30.02	43.0	51.0	35.0	44	50	47.0	S.W.	S.W.	23	12	O.	O.		
Tuesday,.. 3	30.05	34.0	44.0	24.0	74	56	60.0	N.W.	N.	8	20	O.	F.		
Wednes... 4	30.46	15.0	20.0	10.0	93	65	79.0	N.	N.W.	21	10	N.	O.		
Thursday,. 5	30.25	29.0	39.0	18.0	76	91	84.0	S.	S.	6	9	F.	R.		
Friday,.... 6	29.95	37.0	42.0	32.0	82	53	68.0	W.	N.W.	13	12	C.	C.		
Saturday,. 7	30.04	38.0	50.	26.0	64	25	45.0	S.W.	S.W.	10	10	C.	C.	20[2]	0.13[2]
Mean for Week.	30.17	32.3	40.3	24.3	70.7	55.3	62.6								

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. [2] Total for week.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 7, 1889, TO DECEMBER 13, 1889.

Leave of absence for ten days, to take effect upon being relieved from duty at Fort Niagara, New York, is granted Major JOHN D. HALL, surgeon. Par. 11, S. O. 285, A. G. O., Washington, December 7, 1889.

By direction of the Secretary of War, Captain EDWARD C CARTER, assistant surgeon, will be relieved from duty at Willet's Point, N. Y., upon the arrival at that station of Major CLARENCE EWEN, surgeon, and will then proceed to Fort Walla Walla, Washington, and report in person to the commanding officer of that Post for duty, reporting also by letter to the commanding general Department of the Columbia.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING DECEMBER 14, 1889.

ROSS, J. W., surgeon. Detached from Navy Yard, Pensacola, Fla., and placed on waiting orders.

KITE, I. W., assistant surgeon. Detached from Naval Hospital, Philadelphia, Pa., and ordered to Navy Yard, Pensacola, Fla.

ROGERS, B. F., surgeon. Ordered to special duty at Norfolk, Va.

LEACH, PHILIP, passed assistant surgeon. Ordered to duty at Naval Academy, Annapolis, Md.

SOCIETY NOTICE.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. — A Regular Meeting of the Society will be held on Monday, December 23, 1889, at the Medical Library, 19 Boylston Place, at 8 o'clock, P. M.

Dr. F. I. Knight, "The Rational Treatment of Bronchial Asthma."

Dr. F. E. Cheney, will report "A Case of Hysterical Mydriasis, Paralysis of Accommodation, and Blindness, following the use of Homatropine." F. B. HARRINGTON, M.D., *Secretary*.

OBITUARY. DANIEL BAILEY CUTTER, M.D.

Dr. D. B. Cutter, of Peterborough, N. H., died on December 7th, aged eighty-one years, six months and twenty-seven days. He was born at Jaffrey, May 10, 1808, graduated at Dartmouth College in 1833, and took his medical degree at Yale College in 1835. He commenced the practice of his profession at Ashby, Mass., where he spent two years, and removed to Peterborough in 1837. Here he built up a successful and lucrative practice in which he continued active until a few years since, when, with enough of this world's goods for his own comfort and that of those who are dependent on him, he retired from active work, and engaged for a pastime in writing and publishing a History of Jaffrey. He was moderator of the town for 1848-50, and representative to the general court in 1852.

BOOKS AND PAMPHLETS RECEIVED.

A Case of Sarcoma of the Thyreoid Gland. By J. Solis-Cohen, M.D. Reprint. 1889.

A Hitherto Undescribed Disease of the Ovary: Endothelioma changing to Angeioma and Hæmatoma. By Mary A. Dixon Jones, M.D., Brooklyn. Reprint. 1889.

The National Prison Association Congress at Nashville, Tenn., November 16-20, 1889. "Arousing the Public." A Paper by C. H. Reeve, of Plymouth, Ind. With preface and appendix.

The Treatment of Internal Derangements of the Knee-joint by Operation. By Herbert Wm. Allingham, F.R.C.S., surgeon to the First Northern Central Hospital, etc. London: J. and A. Churchill. 1889.

A Treatise on Diseases of the Nose and Throat. In two volumes. By Francke Huntington Bosworth, A.M., M.D., etc., Volume I. Diseases of the Nose and Naso-Pharynx. With 4 Colored Plates and 182 Wood Cuts. New York: William Wood & Co. 1889.

The Principles and Practice of Surgery. By John Ashhurst, Jr., M.D., Barton Professor of Surgery and Professor of Clinical Surgery in the University of Pennsylvania. Fifth Edition, enlarged and thoroughly revised, with 642 illustrations. Philadelphia: Lea Brothers & Co. 1889.

A Manual of Obstetrics. By A. F. A. King, A.M., M.D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D. C., etc., with 141 illustrations. Fourth Edition. Philadelphia: Lea Brothers & Co. 1889.

A Reference Handbook of the Medical Sciences, embracing the entire range of scientific and practical medicine, and allied science, by various writers. Illustrated by chromo-lithographs and fine wood engravings. Edited by Albert H. Buck, M.D., New York City. Volume VIII. New York: Wm. Wood & Co. 1889.

Two Cases of Removal of Uterine Myoma, One, Suprapubic Hysterectomy; the other, Complete Hysterectomy. A New Method of Disposing of the Stump. Microscopical Examination of the Appendages. Remarks on the Treatment of Uterine Myoma by Electricity. By Mary A. Dixon Jones, M.D., surgeon to the Woman's Hospital of Brooklyn. Reprint. 1888.

A Handbook of Obstetrical Nursing for Nurses, Students, and Mothers. Comprising the course of instruction in obstetrical nursing given to the pupils of the training-school for nurses connected with Womans' Hospital of Philadelphia. By Anna M. Fullerton, M.D. Demonstrator of Obstetrics in the Womens' Medical College of Pennsylvania. Philadelphia: P. Blakiston, Son & Co. 1890.

A Treatise on Materia Medica, Pharmacology and Therapeutics. By John V. Shoemaker, A.M., M.D., Professor of Materia Medica, etc., in the Medico-Chirurgical College of Philadelphia, and John Aulde, M.D., Demonstrator of Clinical Medicine, etc., in the same. In two volumes. Volume I. Devoted to Pharmacy, General Pharmacology and Therapeutics and Remedial Agents not properly classed with drugs. T. A. Davis, Publisher. 1889.

A Handbook of Diseases of Women, including diseases of the bladder and urethra. By Dr. F. Winckel, Professor of Gynecology, and Director of the Royal University Clinic for Women in Munich. Authorized translation, edited by Theophilus Parvin, M.D., Professor of Obstetrics, and Diseases of Women and Children, in Jefferson Medical College, Philadelphia. Second Edition, revised and enlarged, with 150 illustrations. Philadelphia: P. Blakiston, Son & Co. 1889.

Original Articles.

SOME HOSPITAL CASES OF TYPHOID FEVER.[1]

ELBRIDGE G. CUTLER, M.D.,
Visiting Physician to the Massachusetts General Hospital.

BETWEEN July 1st and November 1st, 1889, fifty-six cases of typhoid fever in which there was no question as to the diagnosis were admitted to my ward in the Massachusetts General Hospital. There were also nine other cases which were doubtful either from the mildness of the symptoms or from the abortive nature of the attack, which have not been included in this enumeration.

The shortest of the undoubted cases was of seventeen days' duration with two days of prodromata.

The longest was fifty days. The patient was twenty-seven years old and entered the hospital on the eighth day of his disease with a temperature of 102.8° F. which gradually rose till on the twentieth day it reached 104.7° F. It remained about this point for four days with slight morning remissions when it rapidly fell in the course of the day to 98° at night accompanied by improvement and slowing of the pulse and a marked betterment in the general condition. By the next evening, the twenty-seventh day, the temperature had risen to 104.2 a few rose spots reappearing, none having been found for the past twelve days. On the thirtieth day the temperature having slightly diminished there was a small epistaxis. The spleen was concealed by tympanitic distention. Defervescence continued through the next twenty-days, interrupted once only by a hæmorrhage into the right rectus abdominis muscle.

Diazo-reaction. — In 1882, Ehrlich published in the *Zeitschrift für klinische Medicin* a new urinary test for the recognition of one of the diazo compounds found in certain diseases. His reagent was as follows. One part of muriatic acid and twenty parts of water were mixed, and as much sulphanilic acid was added as the solution would take up. This formed one solution. The other solution was a half per cent. solution of nitrite of sodium in water.

(1) Sulphanilic acid	5.0
Muriatic acid	50.0
Distilled water	1000.0
(2) Nitrite of sodium	0.5
Distilled water	100.0

Fifty cubic centimetres of No. 1 and one cubic centimetre of No. 2 are mixed and an equal quantity of urine is added. To this mixture one-eighth volume (or enough to render it alkaline) of aqua ammoniæ is added and the mixture shaken. If the urine be from a healthy person the color is changed but little. If on the other hand it be from a typhoid fever case after the first few days of the disease it becomes an intense carmine or scarlet color best seen in the foam on shaking. Allowed to stand twelve to twenty-four hours a deposit is formed the uppermost layer of which is a narrow or broad zone of an intense dark green or greenish black color (simply violet in healthy urine). This reaction was found by Ehrlich in the urine of typhoids after the first few days (middle of the first week usually) and it lasted till defervescence and perhaps longer. It was also seen during relapse or recrudescence. He likewise found the reaction in the urine of patients in the desquamative stage of measles or after the crisis and in late and severe cases of tuberculosis pulmonum. The reaction occurred in croupous pneumonia and diphtheria only rarely. He drew the following conclusions from his observations.

(1) The reaction is one of the most constant diagnostic marks of typhoid fever, from the middle of the first week on, so that the absence of it renders the diagnosis doubtful.

(2) Cases of typhoid fever in which the reaction is only slightly marked and confined to a short time usually run a very mild course.

(3) If the reaction ceases in the first stage of typhoid without pneumonia having developed we may expect the temperature to remit in the next three to five days.

(4) It is evident that the reaction cannot be utilized for differential diagnosis between typhoid fever and diseases of the second group (erysipelas, miliary tuberculosis, septico-pyæmia, pleurisy, scarlet fever, intermittent fever).

(5) The occurrence of the reaction in croupous pneumonia indicates the existence of complications.

(6) In phthisis pulmonum the occurrence of the reaction is a bad omen.

(7) Long continuance of the reaction without fever points to consumption.

Writers differ as to the worth of this reaction for diagnostic purposes in typhoid as well as about its prognostic value. On the whole the weight of evidence is rather in its favor and is perhaps best summed up by Strümpell in the last edition of his text-book in which he says "the urine (in typhoid fever) gives almost without exception the Ehrlich diazo-reaction at the height of the disease." How great its diagnostic value is I have not been able to determine having made no comparative test. My experience thus far leads me to consider it strong corroborative evidence of typhoid. The reaction was sought for in every case but three, fifty-three times. It was characteristic or marked forty-nine times. In four cases it was absent. Two of these were very mild cases in young persons and the urine was not examined for it every twenty-four hours. In the third case, a mild one, the patient was sixty-seven years old. The fourth case was convalescent when first seen. In several cases where recrudescence occurred the reaction was found at this time in a moderate degree. In one of the cases of relapse the reaction was extreme, in the others it was moderate.

Spleen. — The spleen was found to be enlarged forty-seven times. In thirty-seven of these cases it was distinctly felt below the ribs on full inspiration. In ten cases it was only found to be enlarged by percussion. In nine cases no enlargement was detected. Tympanitic distention may have been the reason once, tympanites and a fat belly once, and a great amount of fat in a third case. The other six cases presented no anatomical or other interference to either palpation or percussion.

Eruption. — The rose spots were profuse in three cases; covering the chest, abdomen, back, upper arms and thighs once; found on the abdomen, lower part of chest, thighs and back once; and in the third case they were seen not only on these parts but also on the face. In two of these cases there was furunculosis on the back (once) and on the back and buttocks (once); in one of of them later many of the rose-spots became pustular

[1] Read before the Boston Society for Medical Improvement, November 25, 1889.

on the back. The rose-spots became pustular on the back in still another case just before death.

Urticaria was seen on the face, back, abdomen and thighs, lasting for three days in one case.

Blue spots were seen once in addition to the regular rose-colored eruption. The spots were faint oval bluish spots the size of a split-pea and the finger-nail and were scattered over the abdomen, sides of the chest and shoulders not very abundantly, quite profusely over the buttocks and thighs. They disappeared on pressure, leaving, however, a slight yellowish or brownish stain. Pediculi were found on the pubes on entrance to the hospital. Some of these blue spots persisted on the thighs at time of discharge about three weeks later. The patient stated that he was easily bruised though not a bleeder. His complexion was light and skin fair. Prof. J. C. White kindly saw this patient and stated emphatically that the condition was not due to pediculi.

Catheterization, on account of retained urine, was necessary in seven cases.

(1) From the fourth day of the disease till the eighth day. No secondary cystitis.

(2) From the seventh till the twenty-first day. No cystitis.

(3) From the tenth till the fourteenth day. No cystitis.

(4) From the tenth till the twentieth day. Cystitis from the fourteenth till the sixteenth day.

(5) From the eleventh till the twenty-fifth day. No cystitis.

(6) From the fourteenth till the twenty-first day, when the patient died of peritonitis due to intestinal perforation.

(7) From the fourteenth till the thirty-second day, when the patient died of intestinal hæmorrhage.

The Nasal Tube was required in three cases.

(1) It was impossible to make the patient take his food and stimulant by the mouth in adequate quantity, and he was accordingly fed by Dr. E. F. Cushing, the efficient house-officer, through the nasal tube every four hours from the eighteenth till the twenty-second day, after which there was no further trouble. Recovery.

(2) Commencing between the end of the third and the beginning of the fourth weeks for ten days Dr. Cushing fed the patient, a boy of fifteen, every four hours. Recovery.

(3) The patient came in after a typical course of three weeks of typhoid under Dr. H. C. Ernst, with melancholia. She was fed by Dr. Cushing for a fortnight through the nasal tube.

Relapse occurred eleven times. In eight cases it was consecutive and in three intercurrent. In each case there were the constitutional symptoms, rose spots, splenic tumor, abdominal symptoms, characteristic fever curve with one exception. In this case there was simply the characteristic fever curve which came on after a week of normal temperature.

It lasted nine days once; thirteen days in two cases; fourteen days in one case; sixteen days in one case; seventeen days in one case, twenty days in one case, with a second relapse of sixteen days; twenty-one days in two cases; twenty-eight days in one case.

Complications. — Hæmorrhage, 5 cases (3 fatal); perforation, 2 cases (2 fatal); parotid abscess, 1 case; bed-sores, 3 cases; melancholia, 2 cases; pneumonia, 1 case; urticaria, 1 case; furunculosis, 3 cases; cystitis, 2 cases; late epistaxis, 1 case; venous thrombosis, 5 cases; œdema of leg, no tenderness, 2 cases; hæmorrhage into muscles, 2 cases.

In the first fatal case of *hæmorrhage* the patient was admitted on the twelfth day of his illness and severe symptoms continued throughout with a high temperature. At nearly the end of the third week the first hæmorrhage occurred, and during the remaining seven days he lived, twenty-four bloody stools were passed, some of them tarry, some fresh, a few clotted.

The second fatal case, also a severe one, came on in the beginning of the fourth week. A large loose dejection was passed containing two small clots of blood; no fall of temperature or variation in the pulse followed. For the next two days the patient appeared better and had movements free from blood, when on the third day a very large hæmorrhage accompanied by collapse occurred and the patient died.

The third fatal case was believed to have been from hæmorrhage, because of the sudden collapse, feebleness of pulse, pallor, gasping respiration, subnormal temperature, though no bloody stools were passed. It was in the beginning of the fifth week.

In a fourth case a small bloody stool was passed at the end of the fourth week and another at the beginning of the fifth week, on the seventh and ninth days respectively of a relapse.

The fifth case occurred on the ninth day of a consecutive relapse, and, was moderate. These last two cases recovered.

The cases of *perforation* looked bad from their first entrance. One was in the hospital seven and the other ten days. Perforation occurred in one case on the twentieth day and on the twenty-first day in the other. Death followed very soon in each case.

The *parotid abscess* occurred in a Portuguese, who entered at the end of the second week with the complication on the right side. Two ounces of thick offensive pus were evacuated. Recovery was uneventful.

The *bed-sores* occurred in two lads and a middle-aged woman, each of whom, passed urine and fæces involuntarily. In two instances it was over the right trochanter, and in the third, over the sacrum. While forming they were painted with ichthyol collodion, and covered by a phenyle (sulphonapthol) poultice later, till the slough came away, when they were dressed with balsam of copaiba.

The most marked of the *melancholia* patients came in convalescent from a three weeks' typical course of typhoid. The patient had a neurasthenic history. Despondency developed with convalescence, she refused her food, refused to talk, had hallucinations and had to be fed by the nasal tube. She was returned to her friends at the end of two weeks, with the advice to send her to an asylum.

In the other case the melancholia was mild and came on at the end of the third week, lasting some days, with ultimate recovery.

The patient who had *pneumonia* called himself fifty years of age, though he looked older. The typhoid here was mild, but protracted. In the fifth week, at the end of defervescence, a limited pneumonia occurred on the right side. The temperature became normal in five days, and the symptoms subsided. Five days later a phlebitis of the left leg occurred, and in the eighth week a limited pneumonia of the left lung came on. Some days later phlebitis of the right leg occurred.

The *urticaria* appeared at the end of the first week.

The *cystitis* was due to the use of the catheter, and washing out the bladder with one part styrone to two hundred parts of water, speedily caused it to disappear.

Venous thrombosis occurred in the left leg four times and in the right leg once. It came on in the fourth week in one case, the seventh in two cases, the ninth in one and the fifth in one. The typhoid had been mild in three of these cases, in one medium, in the other severe.

Œdema of the leg came on in two cases at the beginning of convalescence. It disappeared in a few days, its cause was not apparent. There was no pain or tenderness in one case; in the other it was preceded by a darting pain in both legs of short duration, the next day œdema occurred in the left leg. The pulse was normal in both feet of each case.

Hæmorrhage into the muscles. — This complication was seen in the right rectus muscle near the pubes in one patient in the fifth week of the fever. There was localized tenderness and swelling with ecchymosis coming on later. It took about fourteen days for the symptoms to wholly subside.

The hæmorrhage occurred in another case into one of the muscles of the calf of the leg during convalescence. The complication kept the patient from walking for ten days or more.

Deaths. — There were five fatal cases. Hæmorrhage was the direct cause of death in two: in the third the sudden occurrence of collapse, subnormal temperature, pallor, scarcely perceptible pulse and death within an hour, strongly suggested hæmorrhage. The other two cases were caused by peritonitis following perforation.

Treatment. — The *diet* consisted exclusively of milk in every case till the period of apyrexia began. Six ounces were given every two hours, as a rule, either plain, peptonized, or sometimes mixed with water. Vomiting did not occur very frequently and was usually easily controlled.

A *daily sponge-bath* was given for cleanliness. If the temperature rose to 102.5° a sponge bath of 65° F., was given every three hours. And for every additional .5° of heat shown by the patient, the temperature of the bath was diminished 5°. At 105° ice-water baths were given, and the interval between them diminished to an hour. If this had little or no effect in the diminution of temperature, phenacetin was given in four-grain doses (two grains or less to a child). The usual effect of the drug was to lower the temperature to about the normal point from which it slowly rose in from six to twelve or twenty-four hours to a point a little below what it had been before. It gave the patient a quiet, restful night, diminished the frequency, and increased the tension of the pulse, and never gave rise to the slightest unpleasant symptoms. It always made the patient feel more comfortable.

Cardiac stimulants were necessary in quite a number of cases. The best ones were found to be cocaine in ¼ grain doses every three or four hours, nitroglycerine one minim of the one per cent. solution every three hours (or $\frac{1}{100}$ grain in pill form), and a small dose of sulphate of atropia, given in the same intervals. These were found to be the best during critical periods for several days, given either in twenty-four hour periods or alternately in three hour periods. They proved themselves infinitely better than subcutaneous injections of brandy, and after a few trials were exclusively relied on, till a time when digitalis could be used.

ENTERIC FEVER AND TUBERCULAR MENINGITIS AT THE BOSTON CHILDREN'S HOSPITAL.

BY F. GORDON MORRILL, M.D., *Visiting Physician to the Hospital.*

THE twenty-five cases of typhoid which are tabulated in this paper were taken in their consecutive order from the house records, the only qualification necessary to be included in the series being a moral certainty of the correctness of the diagnosis.

The fact that malarial fevers, with which enteric is most likely to be confounded, are extremely rare in this city renders the diagnosis sufficiently easy in a large majority of cases.[1]

It is, of course, impossible at times to distinguish typhoid from simple continued fever during the first few days; but a tender and tympanitic abdomen, the appearance of rose spots, or undue prolongation of pyrexia, soon lead one to suspect the real condition.

The same remark applies to tubercular meningitis, a dozen or more cases of which I have observed where the earliest symptoms of brain trouble appeared in children who were residents in the surgical wards. Nausea or vomiting, fever, headache, anorexia and constipation are symptoms common to the early stages of both diseases; and the table below shows the frequency of their presence in the cases to which I have just referred, as well as the dates on which symptoms pointing to brain disease were first noted. Of course, in cases of chronic surgical disease (which constitute a large majority of cases treated in this institution), tubercular meningitis is naturally suspected; and the table is given to show the earliest appearance of symptoms on the strength of which a differential diagnosis might be made if enteric fever had been apprehended.

TABLE I.

	13	12	11	10	9	8	7	6	5	4	3	2	1	No. of case.
11	1		1	1		1	1	1	1	1	1	1	1	Fever.
10		1	1	1			1	1	1	1	1	1	1	Anorexia.
9		1	1	1	1	1		1	1			1		Headache.
13	1		1	1	1	1	1	1	1	1	1	1	1	Nausea or vomiting.
7		1		1		1		1	1	1	1	1		Constipation.
5		6th	5th	2d					9th		2d			Inequality of pupils.
3						4th	10th						3d	Dilatation of pupils.
3					5th	4th						1st		Photophobia.
3				6th					7th	12th	12th			Strabismus.
6				7th		2d			8th	12th	1st		4th	Retracted abdomen.
3		12th					1st			1st				Night-cries.
7		7th		4th		2d		9th	7th	12th				Tache cérébrale.
7	1st			12th			11th	12th	9th		9th	2d		Convulsions.
2			5th									2d		Paralysis.
11	3d	7th	5th	13th	11th	10th	6th	13th	5th	10th	2d	1st	6th	Irregular, intermittent or variable pulse.
	63d	17th	15th	13th	11th	10th	13th	15th	14th	20th	5th	12th	16th	Day of death.
	17+ weeks													

Fever was present in all the above cases at some period of the disease, but is not indicated unless noted before the fifth day. Nausea or vomiting (usually both) was observed, on or before the fourth day, in all

[1] I have seen but one case of malarial fever originating in Boston during eighteen years of practice.

cases excepting Nos. 4 and 13, in which it was noted on the eighth and fifth days respectively. The remark about fever applies also to anorexia. Headache was invariably an early symptom when noted. In both cases where night cries are given as present on the first day, they were recorded two or three weeks previous to the appearance of any other symptom. In Case No. 9 the pulse and temperature charts were unfortunately missing, while in No. 10 no pulse record was kept. It will be seen at a glance, that in one case only (No. 12) did suspicious symptoms fail to appear on or before the fifth day; and in this case inequality of the pupils was noted on the sixth day. Moreover, in this case the vomiting was of a persistent type rarely observed in typhoid. The last case in the table was sufficiently peculiar to warrant special mention. Here the first symptom was the occurrence of general convulsions, the patient (a boy of seven, who was an inmate of a surgical ward, and under treatment for hip disease) having several during twenty-four hours. This was on July 31, 1886. August 2d, the pulse varied from 60 to 120 to the minute, and ten convulsions were noted. In the intervals the child seemed well enough so far as his general aspect was concerned, and ate with fair appetite. On the 4th he began to vomit, and retained scarcely anything given by the mouth during the ten succeeding days — was fed by nutrient enemas. Meanwhile, the attacks became less frequent; and on the 16th the record was, "No convulsions during past four days. Sleeps well. Appetite good." At this time his pulse varied from 85 to 140, and his evening temperature was 102° F. August 31st, he continued eating well. No more convulsions had occurred, but he had diarrhœa and began to show signs of emaciation. Temperature and pulse the same. September 8th, had slight nausea, but appeared well enough in other respects, although the evening temperature was 102.5° F. On the 9th, convulsions again set in, and by the 14th were so frequent that the intervals between them were of three or four minutes' duration only, when not under the influence of ether. He was thought to be dying, and the mother was so notified. September 15th the record was: "Very bright. Good appetite—ate eggs for breakfast, and asked for more." On the 26th he again had convulsions, which continued until October 1st, when death occurred. The urine was examined several times during the progress of the case, but nothing was found. It is possible that the trouble may have been brain tumor; but the age, presence of a cheesy

TABLE II.

No. of case.	Age.	Sex.	Normal morning temperature first noted.	Normal evening temperature first noted.	Highest temperature.	Day on which highest temperature noted.	Quickest pulse.	Rose spots first noted.	Rose spots not noted.	Nausea or vomiting.	Bronchitis, or Broncho-pneumonia.	Epistaxis.	Diarrhœa.	Acute delirium.	Abdom'l tenderness.	Tympanites.	Abdominal pain.	Relapsed.	Day of relapse.	Duration of relapse.	Duration of illness.	Result.	REMARKS.
1	10	M.							1		B.		1	1	1	1					?	D.	No history obtainable. Died of perforation a few days after admis'n.
2	4½	F.	18th	20th	105.2°	10th	140	10th		N.	B.				1		1				41	R.	
3	10	F.			104°	9th	140		1	V.			1		1						102	R.	Passed bloody stools during nine days.
4	8	M.			104.3°	6th	120	8th		V.	B. P.			1		1	1				75	R.	Vomited blood on day of admission.
5	4	F.			101°	6th	125	7th			B.		1								39	R.	
6	7½	F.						14th				1		1	1						25	R.	
7	7	M.	28th	30th	104°	23d	148		1		B.				1						62	R.	
8	10	F.			107.8°	19th	140	10th			B. P.			1	1	1	1				77	R.	
9	8½	F.	23d	29th	104.2°	6th	112	9th							1	1	1				85	R.	
10	9	F.	21st	31st	103.8°	6th	140	9th		V.						1	1				83	R.	
11	7	F.	14th	17th	101.8°	9th	100	5th													37	R.	
12	9	F.	14th	16th	102°	10th		10th		V.											49	R.	
13	6½	M.	31st	35th	105°	6th	132	8th		N.	B. P.						1	1			76	R.	
14	10	F.	38th	28th	104.2°	33d	128	10th		N.	B. P.				1	1	1	1	1	41st	21	115	R.	Tender and tympanitic abdomen during relapse. Highest temperature during relapse, 103° F.
15	5	M.	41st	43d	105°	17th		5th		V.	B.											56	R.	
16	6½	F.	24th	27th	104.5°	7th	120		1	V.							1					67	R.	
17	4½	M.	28th	31st	104°	10th	120	21st		V.	B. P.		1	1	1							57	R.	During a period of one week, the pulse intermitted every fourth beat.
18	3½	M.	24th	30th	104°	6th			1	N.	B. P.				1	1						47	R.	
19	11	F.	16th	16th	105°	5th	132	10th			B.				1	1						43	R.	
20	7	F.	22d	25th	104.6°	6th	108		1			1						1	33d	10	70	R.	Highest temperature during relapse, 102°.
21	12	F.	20th	21st	105.3°	10th	120	5th						1	1			1	24th	25	91	R.	Do. do. 102.5°.
22	9	F.	24th	26th	104°	9th			1									1	29th	21	48	R.	Do. do. 102°.
23	8½	F.	14th	16th	104°	4th	118	15th			B.				1	1					57	R.	
24	12	M.	28th	54th	104°	10th	112	14th				1			1	1	1		•			R.	
25	11	F.			105.6°	6th	128	16th		V.	B.	1	1			1						R.	

focus in the hip, temperature and widely varying pulse, all point to tubercular meningitis. The duration of the case (sixty-three days), is very exceptional, but is far exceeded by that of one reported by Collins in the *London Lancet* of March 8, 1884, which lasted 104 days. The other cases are in no way noteworthy, with the exception possibly of No. 3, which is a good example of the explosive type of the disease, where the symptoms crowd in almost simultaneously, and death takes place at an early date.

Before making an analysis of Table No. 2, a few words of explanation are required:

Normal temperatures are given only when not due to the action of antipyretics. Under the head of "Bronchitis or Broncho-pneumonia," such cases are credited with bronchitis, as coughed but showed no evidences of pulmonary consolidation. Very possibly, in some of these, the cough may have been due to pharyngeal inflammation or laryngeal catarrh. Abdominal pain is noted only in cases where it was voluntarily complained of during the early stage. Relapses are dated from periods of apyrexia lasting for three days or more. This system is, of course, open to criticism; but I think it decidedly preferable to making relapses dependent upon the condition of the spleen (no case being credited with relapse unless the fever recurs after this organ has resumed its normal size), as being far less liable to give rise to confusion. I have not noted the cases in which enlargement of the spleen was observed, for the reason that the records in this particular are imperfect, three cases only being credited with this condition, whereas I can distinctly recall double this number. The "duration of illness" is probably considerably longer than it would have been in institutions less liberally conducted, for in many cases the parents were urged to allow the children to remain in the house until their physical condition should warrant their return to home diet and discomforts.

To return now to the figures given, we find that of the twenty-five cases, eight were boys and seventeen girls; average age, eight years. Normal morning temperature first noted in eighteen cases on the twenty-fourth day; normal evening temperature, on the twenty-eighth day. Average highest temperature in twenty-three cases, 104.2° F., observed on the tenth day. The quickest pulse in nineteen cases averaged 125. Average date on which rose spots were first noted (eighteen cases), tenth day. Rose spots not observed in 28% of all cases; nausea or vomiting observed in 48%; bronchitis (or rather, cough not due to pulmonary consolidation), in 32%; broncho-pneumonia, in 24% (all of which recovered); epistaxis, in 16%; diarrhœa, in 20%; acute delirium, in 28%; abdominal tenderness, in 64%; tympanites, in 52%; abdominal pain complained of in early stage, in 32%; relapses, in 16%. Average duration of relapse, nineteen days. Duration to date of discharge, in twenty-two cases (the last two in the table are still residents, but have been for some time convalescent), sixty-four days. Mortality, 4%.

One case of house infection (No. 25) occurred, notwithstanding care taken in disinfecting the discharges with carbolic acid, and the scrupulous cleanliness which characterizes the nursing under the Sisters of St. Margaret. The only case demanding notice beyond that already set forth in the table is No. 8. Here the temperature ran up to 107.8° F. on the nineteenth day, and fell in a few hours to 101°. Nothing, aside from extreme prostation, was noticed, and stimulants were used freely. Three days later the thermometer registered 104°, from which it rapidly descended to a subnormal range, and the child had a convergent strabismus, dilated pupils, and well-marked *tâche cérébrale*. All these symptoms disappeared in twenty-four hours, and convalescence slowly followed. I am fully aware of the impossibility of drawing conclusions from so small a number of cases; but it is only by collecting a series of observations that important results are obtained, and these are published in the hope, that, when added to others, they may prove useful. As regards treatment, I should incline, during the acute stage, to a purely milk diet, frequent sponging with cool water, and the occasional use of phenacetine (so far as is known at present of its effects) in cases where a dangerous or uncomfortable elevation of temperature is present.

ON METHODS OF EXAMINATION IN MEDICO-LEGAL CASES INVOLVING SUITS FOR DAMAGES FOR REAL OR SUPPOSED INJURIES TO THE BRAIN AND SPINAL CORD.[1]

BY PHILIP COOMBS KNAPP, A.M., M.D.,

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SENSORY SYMPTOMS.

Anæsthesia. — The best method of testing the sense of touch is by the finger tips. By a little contrivance the hand may be held so as to hide the finger, and the patient, even when not blindfolded, cannot see whether he is touched; moreover, the physician can thus regulate the strength of the touch perfectly. The compass æsthesiometer is of very little value.

In the majority of cases of traumatic neuroses the sense of touch is diminished in some part of the body, and it may even be absent. Exact hemianæsthesia, however, is rare. For simple diminution of sensation we have no criterion other than careful testing, but where absolute loss of sensation is feigned the strongest faradic current through a wire point or the actual cautery will usually prove too powerful to be borne. If the anæsthesia have a sharply defined boundary it is genuine, for my own experiments coincide with Dr. Putnam's in showing that it is impossible for a simulator to maintain such a boundary with exactness. The reverse of this does not hold, for the limit of anæsthesia in genuine cases may vary from day to day. The distribution of anæsthesia has also some value in localization.

The sense of locality is tested by making the patient indicate, with his finger, his eyes being closed, the part touched. The sensibility to pain can easily be tested by pricking with a pin. The sensibility to temperature can be tested by breathing and blowing upon the skin, or by applying teaspoons or test-tubes to the skin, heated or cooled. The sense of pressure can be readily tested by the pressure from the finger tips. All these forms of sensibility should be tested, for they may be affected even when the tactile sensibility is normal. Tabes, of course, presents the greatest number of anomalous forms of sensibility. The senses of pain and temperature are lost in syringo-myelia. I saw a case of traumatic neurosis not long ago, where all other forms

[1] Concluded from page 600 of the Journal.

of sensibility were normal, but the sensibility to pain was lost over one-half the body. In such cases the question of simulation is in the highest degree improbable.

Delay in the conduction of sensation should also be noted, by making the patient speak as soon as a touch is felt. This is a symptom seen occasionally in tabes, but rare elsewhere. It is not likely to be simulated, but we have no criterion of its genuineness. If the compasses are used we may sometimes meet with polyæsthesia, but I have never seen it except in tabes.

The muscular sense should be tested in two ways. The patient, being blindfolded, should be told to put one limb in the same position as the other, which has previously been put in some unusual position by the physician. This tests the sense of position. Then the limb should be moved passively, taking hold of it in a plane at right angles to the plane of motion, so as to avoid pressure, and the patient asked about the movement. This tests the sense of motion. We have again no criterion of these tests, but they are distinctly beyond the ken of the average simulator, and hence they have considerable value. Muscular sense may be impaired with the other forms of sensibility in the traumatic neuroses, but the disturbance is less common.

Hyperæsthesia. — For hyperæsthesia in the strict sense of the term, we have no practical test, but what we usually call hyperæsthesia is really hyperalgesia, that is, an increased susceptibility to pain. It occasionally happens that we meet with extreme tenderness of the skin to a slight touch, when deep pressure is comparatively painless. This is by no means a proof of simulation, but it is more common in hysterical affections than in organic disease. The existence of hyperæsthesia is manifested during the test for anæsthesia. At a recent meeting of the neurologists and alienists of South-west Germany, at Baden-Baden, Rumpf reports an expedient recommended by Mannkopf.[6] It is to note the pulse during pressure on an alleged painful spot. If the pressure really causes pain, the pulse will be quickened. This, however, although valuable in cases of marked tenderness I have found does not hold for moderate degrees of tenderness such as we find in many cases of neuritis. The diagnostic value of tender points in neuralgia is considerable, and few would be likely to know enough to simulate them.

Pain. — It may be well to speak of pain, although it is purely a subjective symptom. As a rule the pain of traumatic neuroses is not very severe, but sometimes it may be. Occasionally neuralgia, due very often to direct injury of a nerve, may complicate the symptoms. The lancinating pains so common in tabes, are very rare. In genuine cases, it often happens that the pain leaves little impress on the countenance, so that we cannot take it as a guide.

Paræsthesia. — In a good many cases the patient will complain of various forms of paræsthesia, but, of course, we have no criterion of their genuineness. Two forms only need be spoken of as suggestive. One is, paræsthesia in the ulnar region, which is suggestive of tabes; the other, is paræsthesia in the form of a girdle, which is met with only in organic disease of the cord. The value of this symptom is increased if we get a history of its moving up the body.

Pain in the Back. — I have already referred to the efforts which many patients have to keep the back rigid. Pain in the back probably occurs only when there has been direct injury in that region. It is most commonly due to a traumatic lumbago, when the pain is increased on motion and the muscles are tender on pressure. In a few cases there is a pure neuralgia, ilio-inguinal or lumbo-abdominal, where the pain is more severe but less influenced by motion, and the tenderness is chiefly over Valliex's points. In cases of pure traumatic neurasthenia the pain is not affected by motion, and there is great tenderness over the spinous processes — the "spinal irritation" of former days. For a fuller discussion of this subject, I must refer to the recent paper of Dr. J. A. Jeffries, read before the Massachusetts Medical Society. The determination of the variety of pain is usually easy, but we can judge only approximately of its genuineness. Pain in the back is never the sole trouble, however, but it is a frequent complication in the traumatic neuroses.

[6] Centralblatt f. Nervenheilk., No. 12, June 15, 1889.

SPECIAL SENSES.

Smell. — To test the sense of smell we must employ familiar odors, camphor, peppermint, etc., carefully avoiding irritants like ammonia. If the smell be lost the nasal mucous membrane should be examined. Loss of smell is a purely subjective symptom, and one of little value except when unilateral, when it may be of corroborative evidence in hemianæsthesia.

Sight. — The vision should be tested for each eye separately, with the ordinary test-types. If the vision be diminished, with no ophthalmoscopic changes, a careful test of the refraction is necessary, which requires the training of a specialist. In many cases of traumatic neurosis, the symptoms of asthenopia are manifest, blurring, spots before the eyes, photophobia, and a rapid failure of vision after looking at an object for a few moments. I must refer to special treatises for the tests for feigned blindness.

The color sense is usually unaffected, but it may be impaired in one eye in cases of hemianæsthesia, and it is well to test it with worsteds, according to the usual rules. In one or two cases it has been reported that everything looked yellow.

The ophthalmoscope usually reveals nothing, but it may give objective evidence of the utmost value. In a few cases of traumatic neurosis there has been optic atrophy. Optic neuritis is even more rare, and suggests some cerebral growth or inflammation. Care must be taken not to confuse the redness and obscure outline of the disc seen in hypermetropia for a beginning neuritis.

The field of vision must always be tested, for in many cases of traumatic neuroses it is affected. The rough test with the fingers will do in pronounced cases, but it is of little value in detecting slight changes. The blackboard is better. The patient must sit at a fixed distance from it, within a foot, and the limits of the field marked out. The perimeter is the most accurate and the quickest method of testing, but it is too expensive an instrument for the general practitioner. The field of simple vision, the field for form, should first be tested, and then the field for colors. It will be remembered that the field for form is the largest, then the field for blue, yellow, orange, red, green and violet the smallest. Hemianopsia is not met with except in disease of the optic tract. A peripheral limitation of the field is a common symptom in traumatic neuroses. If the relation of the color fields is disturbed, the trouble is probably genuine. If, on testing, we find

the field limited, and its boundary remains the same during our examination, the case is genuine, for from experiment, I believe that it is impossible for the eye to retain a constant imaginary boundary to the field of vision, without some object or mark to aid it. Hence, any marking of the blackboard should be avoided. It must also be borne in mind, that a very marked genuine limitation of the visual field is in no way inconsistent with the patient's getting about with perfect ease.

Hearing. — The hearing should be tested for each ear separately, and the first test should be with the watch through the air. The patient should be turned about to test the other ear, so that the sound may come from the same quarter of the room, and the watch should be held beyond hearing distance and gradually approximated to the ear. If the hearing be good and the speculum reveal nothing, no further tests need be made. If there be diminished hearing and the speculum shows no middle ear trouble, the ear should be closed and the watch held close by the zygoma, and then pressed on the bone. If bone conduction is retained, the trouble is probably outside the labyrinth. Then the time during which the tuning-fork can be heard through the air and through the bone should be noted. In middle ear trouble the bone conduction is longer. In the traumatic neuroses there is often diminution of hearing, unilateral in hemianæsthesia, but deafness is very rare. Feigned deafness in one ear may be readily detected by plugging the flexible tube of an ordinary binaural stethoscope and making the patient listen through it. By reversing the tubes of the end-piece, the sound can be conveyed to either ear without his knowledge. For further tests, I must refer to the special treatises, but enough has been said to guide the examiner in making a tolerably accurate estimate of the patient's power of hearing.

Taste. — Taste must be tested by applying salt, sweet, sour and bitter solutions to the front and back of the tongue. Loss of taste is rarely noted, except on one side in hemianæsthesia.

THORACIC SYMPTOMS.

Examination of the lungs usually reveals nothing of importance. Examination of the vascular system may afford objective evidence of the highest value. The heart's action is rapid, weak, and perhaps irregular, in the traumatic neuroses; adventitious murmurs are not often present; the pulse may later show signs of arteriosclerosis; the skin is cold, cyanotic, and at times œdematous. These symptoms are common and, of course, incontestable, and the recent autopsy of a case of traumatic neurosis, by Sperling and Kronthal,[1] shows their importance in the pathology of these disorders.

ABDOMINAL SYMPTOMS.

The patient usually reports loss of appetite, indigestion, and constipation, symptoms of which we can seldom get any objective evidence.

GENITO-URINARY SYMPTOMS.

Disturbance of micturition is not uncommon. As a rule, there is simply weakness in passing water, but occasionally there is actual incontinence. The latter is important, especially if associated with incontinence of fæces, as indicating organic nervous disease. In many cases we can observe the process of micturition, and note the strength of the stream, the existence of dribbling, and the stains and odors of urine on the clothing. If the patient be a man over fifty-five, a soft rubber catheter should be passed after micturition to see if the bladder be wholly emptied, and that there is not the incontinence of retention caused by an enlarged prostate.

Impotence is a favorite symptom in the courts. We cannot test it, and, even when it is present, it has slight value, for it may occur from all sorts of psychical conditions, or from simple weakness. Priapism is occasionally a valuable symptom in injuries of the spinal cord.

Menstrual disorders are so common in all conditions of debility, that they afford little information in these conditions. They may possibly be due to some displacement caused by the injury, which can be readily detected by a vaginal examination.

Such, then, should be the methods of examination. A few words remain to be said in regard to the results and to the important question of simulation.

The diagnosis of the typical forms of nervous disease which may follow injury, transverse myelitis, paralysis from brain disease, neuritis, tabes, etc., is usually comparatively easy. It is only in these obscure cases of "concussion," the traumatic neuroses, that trouble arises.

We may, in such cases, obtain certain incontestable objective symptoms: oculo-motor paralysis, immobile or unequal pupils, nystagmus, contractures, muscular atrophy and degenerative reactions, ankle clonus, difference in the reflexes on the two sides, loss of knee-jerks, loss of plantar or cremaster reflex, sharply defined anæsthesia, optic atrophy or neuritis, contracted fields of vision, and disturbances of the circulation.

In the average case of alleged injury to the brain or spinal cord, we may have one or more of these purely objective symptoms, or they may all be absent. We find, moreover, a set of subjective or semi-subjective symptoms, many of which are elicited only by careful search, symptoms not very pronounced, but rather characteristic, and we usually find many such symptoms present in the individual case.

The cases presenting such symptoms, these traumatic neuroses, are usually, I believe, grave, and the prognosis is distinctly unfavorable. It is not my object here to discuss their nature, but such is the opinion of those observers who have studied the subject most thoroughly.

The assumption is often made, however, that the majority of these cases are fraudulent, or vastly exaggerated; that most of the symptoms are simulated, and that the patients get well when damages are paid. After a pretty thorough examination of the recent literature upon this subject, I am rather amused to find scarcely any support for this theory from neurologists. The allegations of fraud and the reported fraudulent cases come from surgeons, and often too from railway surgeons, whose bias is most evident. The surgeon's training and experience has made him familiar with objective phenomena in their most pronounced form; he is seldom an expert in nervous diseases, and, therefore, by his training and mental habit, he is incapable of appreciating at their full value the more subtle symptoms which are often so pregnant with meaning to the neurologist. I believe it incredible and practically impossible that an ordinary man, often uneducated and certainly without medical knowledge, should

[1] Neurolog. Centralblatt, Nos. 11 and 12, June 1, 15, 1889.

invent a symptom-complex which is the same in Berlin, in Leipzig, in Erlangen, in Boston, and in country towns in Massachusetts; that this symptom-complex should be made up of a multitude of symptoms, often revealed only on special methods of examination, unfamiliar even to the general practitioner; and that this man should, for hours at a time and on repeated occasions, successfully feign, not only all these symptoms against the keen examination of an expert, but also a perfectly definite and consistent psychical symptom-complex with all its details of expression and manner. As I said in the beginning, the simulator contents himself with a few striking symptoms, he paints them in flaring colors — not in the subdued tones common in traumatic neuroses —and you never have to search for them.

One argument, in support of the view that most of these cases are fraudulent, is so amusing that I must quote it: "Injuries that are pure accidents, or injuries where a corporation of some character is not at fault. never result in concussion of the spinal cord."[8] The context shows that by concussion of the spinal cord is meant these cases of traumatic neuroses. In the light of reported cases and of the recent contributions to our knowledge of this subject, such a statement can come only from extreme partisan bias or absolute ignorance.

In conclusion I will quote a few words from a recent communication by Oppenheim,[9] whose opinion is based on wide experience, as embodying my own views: "In the majority of cases," he says, "the symptoms unite to form a type of disease which can not, in the present state of our knowledge, be mistaken, from its significance, its clearness, its objective character, and the sharpness with which it is defined. I will state only this, that, in the policlinic, where I examine such cases before a large audience of students and physicians, in almost three-quarters of the cases I develope the diagnosis in a convincing manner on the first examination, so that I often hear the question, 'How is it possible that such diseases could be regarded as simulated?'" In the remainder, he adds, repeated examinations, or the crucial test of hospital residence, will enable the physician to decide.

DISCUSSION.

After the reading of this paper DR. G. L. WALTON made the following remarks:

I am glad to hear the reader state that no neurologist stigmatizes all these nervous cases following accident, as frauds. Such sweeping views do not tend to advance our knowledge of this difficult subject. We should, however, avoid erring in the opposite direction, and assuming, because it is possible for nervous symptoms to follow injury, that all persons claiming such symptoms are genuine sufferers, and that simulation is rare. That nervous shock may accompany and follow trauma is a self-evident fact, and that the innumerable symptoms of nervous debility may persist for a longer or shorter time, either in the form of neurasthenia, hysteria, or hypochondria, is shown by patients who have no claim for damages as well as those who have. It is, however, unfortunately true that many fraudulent claimants assume these subjective nervous symptoms, in lieu of more definite disorder. Our task is to discover, as well as we can, into which category each case falls.

I doubt if general experience will corroborate the statement that most cases, after a temporary improvement following the termination of the trial, grow again worse. I should hesitate to accept a view so widely at variance with that which Page has deduced from a large number of cases observed after a period of years, that the general tendency of these nervous symptoms following trauma, with certain exceptions is toward recovery, after the anxiety attending litigation is over.

As to the question of reliability of evidence given by the family and friends, as compared to that of the occasional observer, I should hardly at once assume that the former was more reliable simply through the greater opportunity for observation; it would depend largely upon the character of the evidence in the given case. For example, if the family testified that the patient had not been able to leave the house for six months, while a neighbor testified to having seen her hang out clothes within that period, it would seem to me that the latter testimony was quite as worthy of consideration as the former, especially if it were apparent that the neighbor had no interest in the case. There are certain symptoms which are of great value in cases where no occasion for simulation exists, which become comparatively valueless in cases under litigation. For example, swaying with the eyes shut is easily simulated, as well as a feeble grasp, whether measured with a dynamometer or by the hand of the examiner. It is also easy to complain of a feeling of constriction about the waist, or of prickling in the course of certain nerves. Nor should I lay too much stress on the theory that no simulant would think of claiming numbness on one side of the body following a blow upon one extremity. Medical literature is easy of access, and persons injured in railway and similar accidents are certainly, no less than other patients, liable to make their complaint a subject of constant conversation, and to gather all available information concerning it. We should also be chary of assuming at once that because a patient claims only *slight* numbness, *slight* weakness, *slight* loss of hearing or vision, that the claim is genuine, inasmuch as this degree of loss of function will naturally be pretended by some who would hesitate to make the bolder claim, as well as by those who realize the greater ease with which such a moderate claim may be sustained under critical examination. In fact, we may be at any time led astray if we have too fixed conceptions of what the modern malingerer will or will not claim, for the knowledge that we have such conceptions may easily serve as a guide to the skilful simulant in carrying out the deceit.

A word regarding the diagnosis of organic from functional disease, apart from the question of simulation. Swaying with the eyes closed, absence of tendon reflex, and a sense of constriction about the waist do not always indicate organic disease. A patient may sway with the eyes closed through simple weakness, the absence of reflex is sometimes found in health, and the constriction about the waist is sometimes complained of in hysteria and hypochondria, as well as in disease of the spinal cord.

[8] Judd: Jour. Am. Med. Assoc., August 10, 1889.
[9] Neurolog. Centralblatt, August 15, 1889.

Clinical Department.

AN UNUSUAL CASE OF PNEUMONIA.

BY WM. PORTER, JR., M.D., HARTFORD, CONN.

A PROMINENT judge and lawyer, in somewhat reduced health from overwork, was taken with a severe chill at his office, October 1, 1888. Evening temperature 103°, with intense headache as the only other symptom of importance. The following morning a circumscribed pneumonia was located in the right lung. During the following week the symptoms were favorable, but it was then found that resolution was not taking place, but instead, the disease was slowly spreading toward the apex. From this time until the third week in November, the history of this case is o-

of succeeding attacks, some severe, others slight, until the disease had extended entirely over both lungs, including the apices.

Each exacerbation was accompanied by a rise of temperature, though at no time was it as high as that following the initial chill. The examinations of the lungs during those weeks were most interesting, showing areas of consolidated tissue, with surrounding tracts in the various stages of resolution.

The treatment was largely expectant, quinine, iron and the iodides being used as seemed indicated; the most careful attention being constantly given to the nourishment and the state of the digestive organs. Large amounts of milk, and the strongest beef preparations were well borne, and stimulants were used in increasing amounts, but with every help, weakness increased, the weak heart so characteristic of pneumonia being fully developed, and the danger of fatal heart-failure imminent.

At this time inhalations of Walton's oxygen and nitrogen monoxide were begun, and proved of great value. The inhalations were continued for three to five minutes, and repeated every hour, or two or three hours, as seemed needed. The effect of each inhalation was most grateful to the patient, giving a sense of refreshment in marked contrast to the extreme weakness that was present. It was a conscious aid during the process of digestion. The action of the heart was improved, the pulse being stronger and more regular for some time after each inhalation; and as the days passed, it became evident that the lungs were clearing up more rapidly.

Three cylinders of the gas were used, its value in conditions of extreme debility and heart weakness, as well as in cases where dyspnœa and cyanosis are present, being fully demonstrated.

This case was seen repeatedly in consultation by Dr. G. R. Shepherd of this city, and once by Dr. E. G. Janeway of New York; and made a speedy and satisfactory recovery.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

F. B. HARRINGTON, M.D., SECRETARY.

Regular Meeting, Monday, November 25, 1889, the President, Dr. W. L. Richardson, in the chair.

Dr. W. W. Gannett showed a specimen of

ULCERATIVE ENDOCARDITIS.

Dr. M. H. Richardson showed

AN ABDOMINAL TUMOR

removed three days ago, which presented features of rarity and interest. The patient, a thin, spare, nervous American woman of forty-seven, was brought to the hospital, November 6, 1889. She was extremely weak and much emaciated. Pulse was 102, respiration 20, and temperature 100.4°. She was unable to speak above a whisper, and vomited constantly. Abdomen enlarged, but not particularly tender. She said that she had had peritonitis for six weeks. On account of her condition no thorough examination was attempted. Her vomiting was checked by mustard leaves, and she was stimulated; she received also suppositories of belladonna and morphia. On the following day she was enough better to give a more detailed history of her illness. The family history was negative. Her previous personal history was good. Her general health had been good till about twelve years before when she began to suffer from the following train of symptoms: — nausea, pain in the right inguinal region, slight swelling there, occasional nausea and vomiting, slight headaches and tendency to constipation. Up to six weeks before admission to the hospital these symptoms had gradually increased in severity with occasional acute exacerbations of pain in the right inguinal region. For the past six weeks has been bed-ridden. Has had entire loss of appetite and much fever. Has had vomiting, headache, and intense pain radiating from the umbilicus to the left iliac crest. Extreme weakness and much loss of strength and weight.

Examination: Patient very weak and emaciated. Lungs and heart normal. In the lower part of the abdomen a large mass the size of a man's head, the centre of which is rather to the right of the median line, and nearly filling the pelvis. Tumor is very hard, mostly smooth, with one or two small nodules on the sides. No fluctuation. Vaginal examination not made till day of operation. Urine high-colored, very acid; specific gravity 1,016; considerable sediment; large trace of albumen; sediment contains pus, much blood, large and small round renal cells, granular epithelium from the kidney; bladder cells; fat and granular casts.

During the next two weeks the patient improved very much in her general condition, especially as to the condition of the kidneys. She was able to sit up in bed. The temperature became normal, and it seemed best to take advantage of her improvement for an operation, which every one supposed would be an abdominal hysterectomy.

November 22d, under ether anæsthesia, a vaginal examination through a very tight hymen, showed that the tumor was not connected with the uterus at all, or if at all, by the loosest kind of attachments. By median incision the tumor was exposed, and found recently adherent to the anterior abdominal wall. These adhesions having been easily separated, an exploration showed that the tumor started from the right kidney, and I was prepared to remove that organ. Having enlarged the wound sufficiently to deliver, the mass was found to be attached to the fundus of the uterus by a long pedicle, made up of the Fallopian tubes and the round and broad ligaments, with enormous blood-vessels. The whole pedicle was not larger than the usual ovarian-cyst pedicle. The stump having been cauterized and tied and covered with peritoneum by means of fine catgut sutures, was returned to the abdominal cavity, and the wound united by wire sutures.

Since the operation there have been no unfavorable symptoms. To-day there has been escape of gas by rectum, and the temperature is just above normal.

STONE IN A CHILD OF TWENTY MONTHS.

Dr. M. H. Richardson showed two specimens of stone removed from the bladder. The first consisted of two small uric acid calculi which had been removed by lateral perineal section from a child of twenty months. Great difficulty was met with in reaching the stones after the bladder had been opened. The operation was done very deliberately, in order to check

the hæmorrhage as thoroughly as possible, and to avoid, as far as could be, injury to the rectum and seminal vesicles. The patient made a rapid recovery.

A FOREIGN BODY IN THE BLADDER CAUSING STONE.

The second case was that of a man, thirty-six, who had been seized with an attack of hæmaturia two months before entrance. The history in the case was negative. There had been no venereal disease. He never had passed any fragments of stone. The urine became foul shortly after the attack of hæmaturia. There were the usual signs of stone, — pain in the glans penis, tenesmus, pain on riding, etc.

I removed the stone on Saturday, November 23, 1889. The only unusual feature in the operation was the difficulty in withdrawing the lithotrite after the first crushing. It was impossible to close the blades of the instrument on account of something elastic between them which came up against the opening of the urethra so firmly as to suggest a large fragment caught transversely. It was suggested that there might be a soft catheter there. At the end of the operation when everything else had been removed I caught this object in such a manner that I was able to withdraw it, and found the eraser of a common lead pencil. The washings were found to contain several fragments of the graphite of such a pencil, with one small piece of wood. No considerable amount of wood however, could be detected, nor could the metallic end be felt. The question is an interesting one as to the fate of these portions of the pencil. I examined him time and again to detect anything remaining, sending for him after he had once left the operation room, but it was impossible to detect the slightest evidence of a foreign body.

The patient stated to me to-day that he had been in the habit of using a small piece of pencil two and a half inches in length with string attachment, for the purpose of aiding micturition. The pencil was made of wood and had a small metallic end containing a rubber eraser. The pencil was sharpened, and was introduced point first. Fourteen weeks ago the string broke, and a few weeks later he noticed that the urine had become foul. Shortly after that the first symptom appeared.

RAPID RECOVERY AFTER LITHOLAPAXY.

A third case was interesting from the fact that the patient after having a stone weighing 180 grains crushed and removed by litholapaxy was discharged well, and sent home on the second day.

IMPACTED GALL-STONE, ULCERATION INTO DUODENUM.

DR. E. G. CUTLER reported the case of a woman of forty-five, previously healthy, who, in February 1889, while at work, was suddenly seized with severe colicky pain in the upper right abdomen, with faintness and vomiting. Severe pain lasted three or four days and was followed by a dull ache in the same region, and accompanied by jaundice. No gall-stones were passed. Since then she had never been well, but had suffered from anorexia, weakness, loss of flesh, and persistent jaundice. At times she had had severe paroxysmal pain in the right hypochondrium with increase of jaundice, high-colored urine, clay-colored stools. No chill or vomiting, bowels usually constipated. A fortnight before entrance to hospital during a paroxysmal of pain and jaundice she was treated by mercury, and was profusely salivated. On entrance, and for three weeks subsequently there was some fever and two chills with several days interval between them. Pain in right hepatic region was constant, increased by pressure. The liver was enlarged, and reached two fingers' breadth below the ribs, border regular. Several times some blood was passed at stool. The stools continued to be clay-colored till recently when there was a discharge containing bile. Soon the liver got smaller. Emaciation continued, and the patient became less icteric, but ascites developed and she finally died of asthenia. She was seen by Dr. Cabot several times with reference to operative interference, but it was not deemed a suitable case, as no enlargement of the gall-bladder could be felt, and the case had lasted a long time.

The diagnosis of impacted gall-stone, with its consequences and subsequent ulceration was made, and it was thought probable that there might be some secondary interstitial hepatitis, and possibly some small abscesses. The autopsy proved that the diagnosis was partially correct.

DR. WHITNEY in showing the specimen said: One of the interesting points Dr. Fitz wishes to call attention to, is the size of the liver which is considerably under normal. On section, the marked feature is this yellowish discoloration in points and patches with large openings which at first sight are suggestive of portal vessels, but are in reality dilated gall-ducts, and all these yellow points are evidences of retained bile. The liver is increased in density, due to an increase in the connective tissue with atrophy of the liver cells. In passing down into the duodenum an opening is found which at first suggests the possibility of its being that of the bile-duct. When Dr. Fitz pressed upon it pus mixed with bile exuded, but on opening the duct of the pancreas he was able to show that the common duct which opens also at that point was considerably lower down. Upon cutting into the point where the bile and pus were noticed a cavity was found in which was a calculus the size of a robin's egg. On further examination this calculus was found to be not in the gall-bladder or in the duct, but to lie outside of them where it must have come either from ulceration of the gall-bladder or of the duct, it is impossible at present to say which; but it evidently obstructed at some time the outflow of bile, causing retention and, as a consequence, atrophy of the liver and dilatation of the duct. In addition to this condition there was found a chronic diffuse nephritis which probably in part accounted for the patient's death.

DR. E. G. CUTLER read a paper on

SOME HOSPITAL CASES OF TYPHOID FEVER.[1]

DR. H. C. ERNST: It seemed to me that it might be of interest to speak of the grounds that the bacteriologists have for claiming that the specific organism of typhoid fever is known, and to give some slight description of what that organism is. The grounds for believing that the bacillus of typhoid fever has been identified will probably never be complete, for the reason that no such experiments as those of the causal connection of bacteria with a pathological change, are ever absolutely completed until successful inoculation experiments have been obtained with pure cultures of the suspected organism. This is probably not possible with the bacterium that is suspected

[1] See page 621 of the Journal.

of producing typhoid fever, for the reason that no disease precisely resembling it is known to occur among the lower animals — and until the time comes when it will be possible to make inoculations upon man, one link in the chain of evidence will be wanting.

However, the constant occurrence of this special bacillus in the disease known clinically as typhoid fever, its appearance with the beginning of the disease, its occurrence in enormous numbers in the liver, kidney, spleen and intestines during the height of the malady, its constant and gradual diminution in numbers as the sickness becomes better, and it's absolute disappearance sometime before convalescence is complete, all seem to indicate without much question that the special organism known as the typhoid bacillus is the real cause of the disease.

At any rate, its presence is constant in this process; it has never been found elsewhere, and its occurrence at the beginning of the disease, with its disappearance as the disease itself improves, forms such a chain of evidence that I think all bateriologists are agreed in considering it to be the cause of the disease. Of course, one of the especial points of interest to the practitioner is as to what value this organism has in the treatment or diagnosis of typhoid fever. With this in view a great many experiments have been made to discover it in the fæces, and the so-called "spleen-punctures" have been made to obtain material for microscopic examination and the verification of the diagnosis of typhoid fever. These and various other attempts have been made to make the organism of value in clinical work as a diagnostic feature. That its value in this direction is great is not true, and probably never will be for the reason that there is no way by which it can be easily differentiated from certain other organisms, and notably the bacillus of Emmerich, the so-called "Naples bacillus," which he declared to be the cause of Asiatic cholera. These bacteria resemble each other closely under the microscope and in every other way except in their development upon sterilized potato, and it is only by watching its development upon this nutrient-medium that the typhoid bacillus can be differentiated from other bacteria. By making pure cultures of the "Naples bacillus" upon sterilized potato, there appears a very sharply-marked greenish, or brown colony of profuse growth; whilst in the case of the typhoid bacillus, absolutely no apparent growth is seen even after three or four days at blood-temperature on potato. Not unfrequently, however, when the platinum needle is moved along the surface of the potato, there is seen to be a very thin sticky film raised up by it, and this film is seen to be made up entirely of the bacilli if a portion of it be placed under the microscope, This is the only way by which the typhoid bacillus can be identified out of the body, and to make it certain that one is dealing with that organism, experiments must be carried on for ten days to three weeks, and any such method is valueless for diagnostic purposes. But when it comes to the question of prophylaxis and the methods of treatment, it seems to me that the study of this organism, and a knowledge of its life-history under artificial conditions, opens up a great many roads which we have not had before, because it is not too much to say, in general, that the life-history of the bacteria which are shown to be possessed of pathogenic powers, their behavior to different reagents, to varying conditions of temperature, moisture and the like, furnishes a fairly plain, if not an absolute guide to the direction that clinical methods should take in the treatment of our patients.

Some of the peculiarities of the typhoid bacillus are that it possesses a certain *resisting* stage. Whether the refracting bodies which appear in its length under certain conditions of development, are the same thing as the ordinary spore of other forms of bacteria is not yet definitely settled, but it is certain that the organism does have a certain amount of resisting power to different forms of germicides, and to the different methods of applying heat. This resistance is not very great, — it will not withstand drying for any length of time, and it is destroyed with comparative ease by the application of moist heat.

Another thing that our knowledge of this bacterium has taught us, is, that the only method of infecting from typhoid patients, absolutely the only method of transmission of the disease from one person to the other, — is through the fæces. The occurrence of rose-spots, of laryngeal ulcers, of the various forms of abscesses and phlegmons which run a concurrent course in typhoid fever, have been shown definitely not to be due to typhoid bacillus at all, so that there is no fear of the transmission of the disease from them. They are the result of a double infection, and are produced by various forms of bacteria which have nothing to do with the typhoid bacillus and which obtain entrance because the vitality of the body is lowered by the previous presence of the typhoid bacillus in the system. The special source of infection is, therefore, from the dejecta, and the attempts to stamp out the disease, to prevent its transmission from one person to another must be directed to the proper treatment of the fæces.

In a few cases the bacillus has been found in the urine, but that is of rare occurrence, and only happens when the kidneys are very much degenerated.

I spoke of the fact, that, the link of inoculation experiments was absolutely wanting, but that is not quite true, because some four years ago Tayon reported to the French Academy of Sciences certain experiments he had made upon himself and some of his students with this "Eberth's" bacillus. As the result of the inoculation of himself and the students with minute portions of a bouillon, in which the bacillus had been cultivated, there resulted a disease which seemed to him to be, or rather to resemble, typhoid fever. There was a general malaise, loss of appetite, with rose-spots in one or two cases, I believe, loose dejecta, and a gradual convalescence running over two or three weeks. These experiments seemed to him to be the practical proof that the typhoid bacillus was actually the cause of typhoid fever, and he thought that he had furnished a true inoculation experiment. It may be questioned, however, whether these experiments were of the value that he was inclined to give them, for he furnished no control experiments, and it is also an open question whether the results were not such as might have been obtained from other bacteria than the typhoid bacillus.

Brieger was the first to show the presence of the "typho-toxicon" in the medium in which this bacillus had grown, a "leucomaine" which is the result of its development, and which, when inoculated, produces marked toxic effects, very much more so than when the pure cultures themselves were used.

In the microscopic observation it is found that the bacillus resists the action of aniline colors much more

than the ordinary bacteria. It can only be stained with concentrated solutions of the nuclei-staining colors applied for a long time, ten minutes or more. In sections, Ziehl's carbolic acid fuchsin solution should be used, and the staining be carried on for from twelve to twenty-four hours, the section then to be washed in water and afterwards in very dilute acetic acid.

As regards the resistance of the bacillus to various reagents, the best work has been done by Carl Seitz in Koch's laboratory. He found that the various solutions of calomel, kairin, chloride of calcium, iodide of potash, etc., do not destroy the vitality, but simply exert an inhibitory effect on the growth of the bacillus, and that when diluted to any extent the organism went on growing as well as before. The only thing which actually destroys its vitality quickly is (according to him), naphthaline, either solid or in solution.

One of the most marked and commonly suspected sources of the origin of typhoid fever is drinking-water, but I am of the opinion that it is not as commonly the cause of the disease as is supposed, for the reason that the bacillus does not develop well in ordinary water. Its vitality is not destroyed but it does not grow with any great rapidity. One thing it does develop in with great rapidity, milk. It will develop in milk with more rapidity than any other nutrient-medium, and if it should happen that water from a contaminated well, containing only a few of these bacilli, should be used to dilute the milk in its passage from the cow to the consumer, this passage occupying only a few hours, it would be sufficient to produce an enormous number of the bacilli in the milk itself.

The bacillus occurs in large masses in the mesenteric glands. It only appears in the intestinal walls, in Peyer's patches, in the follicles of Lieberkuhn in scattered collections, but particularly in the mesenteric glands, and occasionally in the spleen, liver, and kidneys it appears as the so-called "knots," the single bacilli never appear in the cells of the various organs but always between them.

DR. F. MINOT: There are one or two points in Dr. Cutler's paper I should like to have seen alluded to, namely, the behavior of typhoid fever when it runs on for a very long period; the prognosis of those cases, and the value of treatment. I suppose all of us have seen a great many such cases, lasting several months. Looking over the notes of a good many cases of my own before coming to this meeting, I came across several of this kind; in one a patient was taken ill in March, and she was not convalescent until July 9th, and was not able to be moved into the country for several weeks later. It has been my fortune to see a pretty large number of such cases, and one thing has struck me as remarkable about them, that so many recover, even after months of extreme prostration. I do not speak of relapses, which are of short duration, usually, and the great majority recover, but, of cases where there has been no relapse at all, and the symptoms continue uninterruptedly for months. Where death does take place it is probably from failure of the heart's action. It is important to remember this point, because it should influence our treatment to a great extent. The raising up of such patients suddenly in bed, or the excitement produced by the visits of friends, or the anxiety and agitation produced by bad news are often sufficient to bring about a fatal termination. With these exceptions I think a surprisingly large number of such cases recover.

Dr. Cutler alludes to cystitis as a not infrequent symptom, and to its connection with catheterization. I have no doubt that many such cases are the effect of carelessness in the use of the catheter. In one case, however, under my care a few years ago, there was a cystitis following the use of the catheter, in which pains had been taken to prevent any infection; the catheter was always kept, when not in use, in a solution of carbolic acid, and the hands of the nurse and of the physician were cleansed with great care before the instrument was used; notwithstanding this the patient had an attack of cystitis, which, however, yielded very easily to injections of a solution of boracic acid, two or three injections being sufficient to relieve the patient entirely. Here the infection probably came from the bed on which the patient lay or possibly from some of the urine remaining on the outside of the urethra.

Dr. Cutler alludes to the treatment of typhoid fever by cold baths. It is a very difficult process to carry out even in the hospital, almost impossible in private practice; and yet from the favorable results in Germany and in France it seems desirable that some method should be devised by which it can be applied easily and inexpensively. This subject reminded me of a notice I had seen in a work published several years ago, written by one of the most eminent American physicians that ever lived, Dr. Nathan Smith, who was professor of the Theory and Practice of Physic and Surgery in Yale College. I brought the book here in order to show that the method was adopted and practised in New England as early as 1798 with alleged success. I will read a few lines from this book: "The body was stripped and the shirt divided down before so as to expose his body, and about a quart of cold water was sprinkled over it by applying it with the hand: the sheet then thrown over him." In other cases a much larger quantity was applied. A gallon for, instance, was poured directly over the patient several times during the day. He speaks of the method especially: "The method which I have adopted is to turn down the bed-clothes and dash from a pint to a quart of cold water on the patient's head and body. . . . If the body should be very hot he may be turned on the side and the water dashed upon the back." He gives details of three cases as interesting specimens of the way in which the method was applied and of the effects: "but," he says, "I could detail a great many additional cases where the good effects of cold water were as apparent and immediate as in the cases just cited; and in no instance where I have used it or seen it used, has it done harm. There are but few cases in which it may not do good in some stage of the disease." He was first led to use it from a hint from Dr. Robert Jackson's work on "Fevers of Warm Climates," and the first time he used it was in 1798.

With regard to the mental condition of patients after typhoid fever, Dr. Cutler has alluded to one or two cases in which there were delusions. I have seen some remarkable cases of this kind even in patients not of nervous temperament. One was a lady who after she was convalescent, and sitting up, one day inquired whether I had my buggy at the door. I told her I had. She wished I would go down stairs into the library and take as many books as I could put into the buggy, because her husband had lost all his property and the creditors were coming that day to take possession of everything in the house, and I should never

get my pay. She remained in that state a week or ten days but recovered perfectly and has been well ever since.

Another case was that of a young gentleman who had repeated abscesses —a case of pyæmia, of course— in various parts of the body, among others in the lungs, by which he was two or three times in great danger of being suffocated, who slowly recovered after taking enormous quantities of stimulants. The most remarkable thing about the case was that the patient was mute many weeks after his convalescence, during which time he would not open his lips though he understood what was said and would make a gesture of recognition. The case was like some severe cases of chorea in which the patient remains mute a long while after recovery from the acute disease.

In some cases the diagnosis between typhoid fever and acute miliary tuberculosis of the lungs, with probably meningeal complication at the same time, is difficult. One or two hospital cases have occurred under my observation: one a patient who died after a fortnight's illness; she was brought in with the diagnosis of typhoid fever, but with symptoms which pointed very strongly to meningeal complication and probably acute miliary tuberculosis of the lungs. Unfortunately no autopsy could be obtained in that case and the real nature of the disease could not be proved. I think it is not a very uncommon thing for a good deal of doubt to exist in the mind of even an experienced practitioner as to whether the patient before him is suffering from typhoid fever or from acute miliary tuberculosis. In this latter disease there is often the stupor of typhoid fever, the dusky appearance of the skin, owing to the general cyanosis produced from the pulmonary tuberculosis, sometimes diarrhœa, occasionally cough and possibly a few râles in the chest, and occasionally a rash resembling somewhat that of typhoid.

Dr. Geo. B. Shattuck: The subject which Dr. Cutler has presented to us to-night, though certainly not a new one, is one of those old subjects which always respond well to new search-lights. This arises largely from the inherent character of the disease. There is certainly hardly a disease in which different individual patients, or different series of cases or different epidemics present such great differences and varieties in clinical appearances and in results, and I think this naturally must lead us to great hesitation in dogmatizing or even in generalizing from any small number of cases. I don't mean in saying that to depreciate the value of such contributions. Their value is increased by putting them together, especially where series of cases occurring under the same conditions can be considered as a whole.

A few words with regard to the enlargement of the spleen as a diagnostic point in determining relapse and recovery, which has been touched upon to-night and which was also brought up when the same subject was discussed at the meeting of the Suffolk District Society. I had some cases at the City Hospital noted at random with reference to the spleen.

Case I. Spleen on entrance at the eighth rib. Temperature normal thirty-two days after entrance, on the thirty-seventh day of the disease, as nearly as we could estimate, and that of course, with our patients is rather vague; at that time the spleen was at the same level as on entrance.

Case II. Spleen at the seventh rib. Edge felt below. Temperature normal twenty-seven days after entrance, the forty-fourth day of the disease as we estimate it, and at that time the spleen was at the eighth rib.

Case III. Spleen at the seventh rib on entrance. Edge felt. Temperature normal fourteen days afterward, the twenty-second day of the disease and the spleen still at the seventh rib.

Case IV. Spleen at sixth rib. Edge felt. Temperature normal twenty-two days after entrance, the twenty-eighth day of the disease, and at that time the spleen at the seventh rib.

Case V. Spleen at the seventh rib on entrance. Edge felt. Temperature normal twenty days after entrance, the forty-first day of the disease. Spleen then at the eighth rib.

Case VI. Spleen at the seventh rib on entrance. Edge felt. Temperature normal twenty-eight days after entrance, the forty-second day of the disease; spleen at the seventh rib.

With reference to the diminution of the spleen at convalescence I have several cases. Case I, Spleen at the ninth rib a day after the evening temperature became normal. Case II, Spleen at the seventh rib. Temperature ranging about normal fourteen days: patient sitting up and the diet increased. Case III, Temperature below normal ten days. Spleen at ninth rib. Case IV, Spleen at eighth rib eight days after temperature was normal, etc. Case V. Spleen at seventh rib. Edge felt below. Temperature subnormal for six days and about normal for three days. Diet increased and patient steadily convalescent to recovery. Such cases at least go to show that the splenic tumor is a variable factor as a diagnostic point in regard to relapse or to convalescence.

I have two charts I could not resist the temptation of presenting to the Society. It so chanced that two patients who had continuously high temperature and were quite sick fell out of bed. From the date of this occurrence there was in each case a steady amelioration of the symptoms to recovery. Can it be, as is now claimed for cold baths, that the shock or stimulation to the nervous centres was the cause of the improvement!

I have used nitroglycerine and cocaine as cardiac stimulants in quite a large number of cases with great satisfaction. The results which I have obtained coincide very well with those which Dr. Cutler has mentioned in his paper. I have made a renewed use of digitalis and it has merely confirmed the impressions I have had before, that, as a rule, it is an undesirable thing to use unless in the late stages of typhoid fever.

I am familiar with the little book by Dr. Nathan Smith, published in 1824, to which Dr. Minot so aptly alluded. The statement it contains of his use of cold water in the treatment of typhoid fever in the later part of the last century is curious and instructive. A reference to it is given in the article on Typhoid, which I wrote for "Wood's Supplement to Ziemssen's Cyclopedia" in 1880.

I have purposely used antipyretics less than formerly in order to try to compare cases with those in previous years. Where I have used them I have been extremely pleased with their effect; and it seems to me that with such an antipyretic as phenacetin we can graduate the dose in such a way as to get very pleasant and comforting results with almost no danger. I cannot see myself that the patient is exposed to any-

thing like such risk from collapse with the use of phenacetin as he is with the use of cold baths. Certainly one is not called upon to counteract the effects of phenacetin by stimulants, as those who advocate and use cold baths assure us that they constantly are in using the cold bath. I should modify but little what I had to say with regard to antipyretics in the article on Typhoid Fever in Wood's Hand Book which was written three or four years ago.

DR. F. C. SHATTUCK said that he considered the diazo-reaction of Ehrlich of corroborative, but by no means of absolute value. He recalled one case of severe and undoubted typhoid under his care in the hospital with a relapse, also severe: in neither the primary attack nor in the relapse was the diazo-reaction obtained though repeatedly sought for.

The reader is to be congratulated on the fact that in all his fatal cases there was so good a reason for the death, namely, hæmorrhage or perforation. The large percentage of relapse is of interest, especially in view of the freedom from relapse which Dr. Folsom reports in his cases this season, a freedom partly due to the fact of his adherence to the view that, to constitute relapse, there must be complete defervescence of the primary attacks. Even this postulate was met in a fair proportion of Dr. Cutler's cases.

The speaker had become somewhat suspicious of typhoid fever of long course and asked Dr. Minot whether he were sure that one or more relapses had not taken place in these long cases to which he had alluded.

DR. MINOT: All I can say about that is that in a good many of those cases no charts had been used. Some of them were old cases. In others where charts had been used, in very long cases as far as my memory goes there were no relapses: at least no such distinct relapses as we see in other cases, not of that very long duration. I do not think that all these cases were typhoid fever from the beginning to the end. In many of them the essential part of the disease had passed away and the patients were left in a state of extreme prostration. They might be compared to a ship which has gone through a tremendous storm, and stripped of its mast and sails, lies almost like a log until it gets into port.

DR. G. B. SHATTUCK: I think the question of relapse with reference to Dr. Folsom's cases is a good deal a question of definition and interpretation, very much as one would call a disease contagious and another wont. It was partly with reference to this that I reported these cases, calling attention to the spleen. I think Dr. Folsom would not consider a case a relapse unless all the symptoms of typhoid fever were absent a certain time. Although the temperature might be at normal several days, yet if the spleen remained at the same position of enlargement he would rule out the name relapse; and that applies to the case on his chart to which I think Dr. F. C. Shattuck refers.

DR. ERNST: In regard to water as being a favorable nutrient-material for the typhoid bacillus, I think that Dr. Shattuck must have misunderstood me, but first in regard to the occurrence of typhoid fever from typhoid bacilli scattered on the snow. In the presence of cold the bacilli would retain their vitality for a very long time, — an indefinite time, in fact: the point is that they do not develop, not that they are killed. In contrast to this Plymouth epidemic was the one in Providence about a year ago. The dejecta of several typhoid patients was washed down by severe rains into the Seekonk River from which Providence derives its water-supply, — the cases occurring four or five miles above Providence itself. The chart of the epidemic as shown in the report of the Providence Board of Health is very remarkable. The number of cases jumped in the course of ten or twelve days from practically none at all to 160 or 170, in certain districts of the city; and the water was, to my mind, responsible for the increase, because filters sent to me for analysis and examined in my laboratory as well as others sent to Dr. Prudden in New York, showed the presence of the typhoid bacillus, — these filters coming from houses in which there had been cases of the disease. One of the remarkable things was that every case of the fever in that epidemic occurred where the water for the house supply was obtained directly from the pumping station at the river. The better part of Providence is supplied by a high-water service from a reservoir on the hill. A portion of the supply is pumped and delivered direct, while another portion is stored in the reservoir; and the houses supplied from that reservoir had not a single case among them — in other words, the water clarified itself after standing, on the one hand, and on the other, the bacilli were gathered in the filters and developed there — not in the water-supply. There were a few present in the water, the filters were not properly cleaned, the bacilli grew very rapidly in the filters, and as the water passed through them to the house it obtained a fresh supply of bacilli and the people drank them. It is not that a water may not be a danger, only that it does not furnish a favorable nutrient-material for the bacilli, they do not develop rapidly and after a time they die out. I could hardly have made myself clear if Dr. Shattuck understood me to say that the bacilli occur only in the intestines. They occur, and in enormous quantities in the spleen, liver, and kidneys, and in smaller quantities in the other organs.

As far as the investigations of which he speaks are concerned, I did not refer in what I have said to any one set, but I have tried to speak of the work done upon the subject as a whole, that seems to indicate that the intercurrent lesions of which I spoke, are due, not to the typhoid bacillus, but to the pyrogenic bacteria or to other forms of organisms.

In regard to the identification of the typhoid bacillus, the assertion that a person has found it, is not to be accepted without any question at all. It is not an easy thing to identify, and I should want to know the investigator before I accepted the assertion that he had found it and identified it after cultivation. It is a matter which requires some time and a good deal of experience.

I spoke of the puncture of the spleen, and said I did not think the organism found from that puncture of much value from a diagnostic point-of-view, because to be sure that it is the typhoid bacillus, it must be obtained in pure culture and on sterilized potato.

DR. HENRY JACKSON: I made a few experiments several years ago as to the growth of the typhoid bacillus in water. I took water of three grades: (1) distilled water; (2) ordinary city water of fair quality; (3) water from a well which had been condemned as containing too much organic matter to be fit for use. These samples were sterilized and inoculated with the bacillus of typhoid. The bacillus died out in a short time in the distilled water. In the water which I

spoke of as of fair quality, the bacillus grew slowly during the few weeks when the water was under observation. In the foul water there was a very rapid growth of the bacilli, increasing by thousands in the course of a few days.

I wish also to say a few words about the sterilization of fæces in typhoid patients. We consider that in the fæces lies the cause of the disease whether we acknowledge that it is a bacillus or not; and the important question arises, How shall we sterilize the fæces? In looking at the text-books one has great confusion as most of the text-books say that the dejection should be thoroughly sterilized or disinfected, all agree to that. Most of them say, add a little carbolic acid, some add a "sufficient amount" of carbolic acid, but none, except the American Edition of Strümpel's Text-book give any detailed directions for the treatment of dejections. It is very easy to disinfect thor oughly and completely liquid or very loose dejections. That can easily be done by the addition of carbolic acid of five per cent. strength. On the other hand, it is very difficult to disinfect solid dejections. If carbolic acid is poured on the dejections it is many hours before it soaks into the mass, and, until that occurs the bacilli lie there in perfect safety. Dr. Shattuck has struck the key-note, where he says "stir thoroughly and let stand several hours." That is the most important part. If we wish to sterilize solid dejections they must be broken up. That, of course, is a very disagreeable thing to do in private houses or anywhere else; but if we feel that the dejections must be sterilized that must be done. I think it would be simpler in most cases in private families, to burn all solid masses and pour carbolic acid on all the liquid masses.

A long article has been written recently by Uffelmann, in which he advocates the use of five per cent. carbolic or 1-500 corrosive sublimate, adding at the same time a small amount of hydrochloric acid to prevent the decomposition of the corrosive sublimate. If we are to use carbolic acid the fæces must either stand a long time or the masses must be thoroughly broken up. To demonstrate that, I have made a few plate cultures. I have made in the first place the culture of loose dejection. There will be seen to be one hundred or more colonies. To a portion of the same dejection I added carbolic acid so as to make a solution of two and one-half per cent. After the flask stood fifteen minutes a second culture was made and that remains sterile after three days. I made a plate culture with a portion of solid fæces; this plate shows a large number of colonies. I covered the mass of fæces with five per cent carbolic acid, and after fifteen minutes made a second plate culture in which a large number of colonies have grown; twelve colonies grew on the plate made from fæces that soaked in carbolic acid for six hours.

DR. J. A. JEFFRIES thought that Dr. Ernst had not made it quite clear that Tayon's cultures of the typhoid bacillus had been questioned. This was an important point, as it seemed clear that the men experimented on did not have typhoid fever as might have been expected if Tayon had used the typhoid bacillus.

In regard to milk the danger appears great, even greater than Dr. Ernst suggested; it is not necessary for the milk to be adulterated; it has been shown that simply washing the tins with infected water is sufficient to contaminate the milk. The bacilli remain on the tins and later grow in the milk. If, however, milk is the chief source of danger, or even a considerable one, the results gained in our large cities by a proper supervision of the water-supply is hard to explain. Such cities not only have less typhoid than formerly, but less compared to the country. Now as the milk comes from everywhere to the cities and is very old before distribution, the cities should show much typhoid, and the water-supply have little effect if the chief danger is from milk.

DR. F. H. HOOPER.

ACCIDENTS IN INTRA-NASAL SURGERY. PRESENTATION OF AN INSTRUMENT LOOKING TO THEIR PREVENTION.[2]

NEW YORK NEUROLOGICAL SOCIETY.[1]

DR. IRA VAN GIESON read a paper entitled

A CONTRIBUTION TO THE PATHOLOGY OF THE LARYNGEAL AND OTHER CRISES IN TABES,

and described a case of tabes with laryngeal attacks during the last year of the illness. One of the crises proved fatal. Microscopical examination showed the lesions of a chronic neuritis of the roots of the vagus and accessory portion of the spinal accessory nerves on both sides. Neuritis of the root fascicles or trunks of one or both of these was regarded as more frequently the cause of the laryngeal crises than central lesions.

The author divided laryngeal crises into two classes: A first class in which the glottis constrictors and dilators were normal, and the crises occurred by reflex spasm of the adductors; a second more numerous class of cases in which the constrictors and dilators are in a greater or less degree of paralysis.

The first form of the crises might be produced by a neuritis of the roots of the accessory portion of the eleventh nerve, irritating the sensory fibres of the larynx and being responded to by motor impulses through the vagus which would produce closure of the glottis by contraction of the adductors. The second form of the crises might be produced by a destructive stage of the neuritis in the vagus, inducing a motor inability of both the adductors and abductors. But as it has been shown experimentally in animals, that the adductors are stronger than the abductors a reduction of power in both sets of muscles would render the equilibrium of the two sets of muscles so unstable that reflex irritation of the motor laryngeal fibres, or direct irritation of these fibres in the vagus by the neuritis would be responded to by a contraction of the stronger adductors, analogously to the results of artificial stimulation of the motor laryngeal fibres in animals. When the neuritis affects both the vagus and accessory nerves together, the conditions are favorable for the production of violent crises. A localization of the lesions causing the other crises in tabes was based on Gaskell's description of the distribution of the sympathetic system.

DR. A. SCHAPRINGER presented a case of

CONGENITAL BILATERAL ABDUCENS PARALYSIS WITH FACIAL PARALYSIS.

The patient was a girl, eight years old, with congenital paralysis of both facial nerves and inability to rotate the eyeballs either to the right or to the left.

[1] Concluded from page 613 of the Journal.

[2] See page 606 of the Journal.

The faculty of rotating the eyeball upward and downward was unimpaired, and so was the faculty of convergence. This condition of the motor apparatus of the eyeballs is termed by certain authors "bilateral abducens paralysis," which designation Dr. Schapringer considered insufficient and misleading, and he therefore proposed the term "bilateral pleuroplegia" as a substitute. There were only four similar cases on record, namely, one each described by Alfred Graefe, C. C. Harlan, Julian Chisolm and F. J. Moebius. Other coexistent anomalies present in the child exhibited were: a protuberant glabella, bilateral epicanthus, a slight deformity of the terminal phalanx of the left index finger, a bifid uvula, and a sunken sternum representing a rudimentary form of "funnel chest" (*Trichterbrust* of the German authors). There was also a partial implication of the motor portion of the fifth and of the hypoglossal nerves.

Dr. Schapringer considered the phenomena within the sphere of the cranial nerves as due to a lack of development of the brain involving the nuclei of the fifth, sixth, seventh and twelfth nerves.

DR. SACHS was acquainted with the cases reported by Moebius, which, however, differed from this in that there were four nerve nuclei affected in the latter. It was a question whether this was a congenital condition or a poliencephalitis superior occuring shortly after birth. He referred to a case of his own of congenital bilateral ptosis, and thought it was probably similar to those just described.

DR. SEGUIN had observed such a condition to follow traumatism. A lady ten years ago was thrown from her carriage, and made unconscious for several hours. She had a double abducens paralysis lasting several years. He thought there was hæmorrhage into the nuclei of those nerves.

DR. CORNING had seen a case precisely like that of Dr. Seguin, following a blow upon the neck.

DR. BIRDSALL described a case of double abducens paralysis occurring in a man whose head was caught between two car buffers.

DR. SCHAPRINGER said he had frequently seen cases of double abducens paralysis, but that he knew of only four where there was in addition disease of of other cranial nerve nuclei.

DR. C. A. HERTER read the clinical history and report of the autopsy in a

CASE OF CERVICAL PARAPLEGIA FROM DISLOCATION.

J. F., a mason, fifty-seven years of age, fell head first from a scaffolding, a distance of twelve feet, striking with his head against a board. Patient was conscious on admission to the hospital. Examination failed to elicit evidence of fracture or dislocation in any part of the cervical spine, but there was great tenderness of the 6th and 7th vertebræ. There was complete motor paralysis below the arms. The forearms and arms were normal, but there was weakness of the muscles of the hand. There was also anæsthesia and analgesia of the lower extemities; and of the trunk extending high upon the chest. On the arms the anæsthesia involved, roughly speaking, the distribution of the ulnar, internal cutaneous, and lesser internal cutaneous, nerves, and was highly symmetrical.

With the exception of the plantar reflex on the left side, both superficial and deep reflexes were absent when the patient was admitted. There was a cincture pain about the lower part of the neck, and above and below the clavicles there was hyperalgesia. Below the neck there was pronounced myoidema, and fibrillary contraction could readily be elicited. Respiration was purely diaphragmatic. Temperature, on admission, 97.2°. Retention of urine and incontinence of fæces.

Nine hours after admission it was found that the sensory loss was the same as before, but the motor paralysis had spread, so as to involve the flexors and extensors of the wrist, triceps, and to a less extent the pectoralis major, and the pronators and supinators. Very slight power remained in the biceps. At the time no reflex could be obtained. Respiration continued diaphragmatic. The pulse was somewhat feebler than on admission, but good. The temperature had risen during the afternoon following admission to 104°.

On the day following admission the patient's condition was about the same, except that the biceps was somewhat feebler. During the afternoon of this day there was some embarrassment of respiration and on the second day after admission the patient died from respiratory failure, having survived the injury forty hours.

The autopsy revealed a dislocation forward of the sixth vertical vertebra, and an oblique fracture through the left superior articular process of the sixth vertebra. The forward displacement of the sixth vertebra was probably not more than one-third of an inch. The amount of pressure on the cord at the time of the autopsy could not be determined. Examination of the cord showed that the eighth cervical segment was extensively disintegrated, and that the seventh was considerably softened by the displacement of the vertebra. At the junction of the sixth and seventh segments the central canal was distended by hæmorrhage and there seemed to be some extravasation into the surrounding gray matter. Above the sixth segment the cord was normal. The case supported the view that the peculiar distribution of the sensory disturbance noted in the upper extremities depended on a lesion of the eighth cervical and first dorsal segments, and that in this case the biceps was represented at a lower level than is considered usual, that is, in the lower part of the sixth segment.

DR. STARR said our knowledge was not yet complete with regard to localization in the cord, and every such case was very valuable. In his table he had located the biceps nuclei in the fourth segment, because it was so often associated with the deltoid in paralysis, and this was the level of the latter muscle. It seemed from Dr. Herter's case that the biceps group of cells had a vertical arrangement of greater length than he supposed, extending probably from the fourth down through the cord as low as the seventh segment.

DR. HERTER thought that the nuclear arrangement might differ in various people, and in his case the biceps nucleus may have been lower than usual.

DR. DANA hoped that Dr. Herter would examine his experiments with Dr. Abbe in two cases where, in operations upon the spine, he had applied electricity to the nerve roots, and shown that there was much more overlapping of cell groups than was ordinarily supposed.

— A Faculty of Comparative Medicine and Veterinary Science was inaugurated at McGill University, Montreal, December 19th.

Recent Literature.

Cyclopædia of Diseases of Children. Vol. II, pp. 1,066. Edited by JOHN M. KEATING, M.D. Philadelphia: J. B. Lippincott Co.

This volume exceeds, if anything, Volume I in value and interest. Part I contains "The Diseases of the Skin," written by Hyde, Bulkley, Van Harlingen and others. The article on "Eczema" will, of course, be most frequently referred to, and Van Harlingen has treated the subject in a very satisfactory manner, although one is surprised at finding no mention of the external use of either boric or salicylic acid.

Part II. "Constitutional Diseases and Diseases of Nutrition," begins with a carefully written article on "Scrofulosis," by Henry Ashby. Excision of superficial enlarged glands is recommended in a lukewarm manner, but when pus has formed, he insists on at once opening the gland under an anæsthetic and scraping out the caseous material. The articles on "Tuberculosis," by A. Jacobi, and on "Syphilis," by Abner Post, are both valuable contributions to these subjects. "Rachitis" is treated of at length by Thos. Barlow and J. S. Bury, and the article is illustrated by interesting photographs. The writers are inclined to think that, although improper feeding tends to rickets, its influence has been overstated to the exclusion of other agents, of which they would lay especial stress on bad air and insufficient covering of the infant's limbs. "Scurvy," by Thos. Barlow, is particularly interesting, and contains a report of a series of cases. Dr. Barlow thinks that many of the cases described by German writers as "acute rickets" are, strictly speaking, a combination of scurvy and rickets. The editor was certainly very fortunate in obtaining the article on the "Urinary Diatheses," by J. Milner Fothergill, which was the last work of this distinguished writer. One is forcibly impressed with the prevalence and importance of lithiasis. The administration of lean meat and beef tea in these cases are, the writer says, so much poison to the child, while the resort to peptonized foods he clearly shows to be even worse. A diet largely farinaceous is advised, and no mention is made of the almost antidiabetic diet recommended by some recent writers, a diet the reverse of that used by Fothergill.

Part III. "Diseases of the Respiratory Tract," contains articles on diseases of the nose, pharynx and larynx, by Bosworth, Jarvis, Morell Mackenzie and others, the mere mention of whose name shows at once the valuable character of the articles. Over one hundred and fifty pages are devoted to "The Diseases of the Lungs." Dr. Francis Minot contributes a valuable paper on "Croupous Pneumonia," illustrated by clinical charts and by brief reports of cases. He dwells on its frequency in children, on the relations of the sanitary surroundings to the disease, on the fact that it is but rarely fatal, and on the need of but little medication. It is a great pleasure to find a brief article written for the purpose of bringing about the disappearance of the term "capillary bronchitis," which, as the writer, F. Gordon Morrill, says, "has become a troublesome and intangible ghost both in clinical teaching and in medical literature." The article, by the same writer, on "Broncho-Pneumonia" is also particularly valuable, and with Dr. Minot's article clears up the extreme haziness as to these two diseases in children, present in many practitioners' minds, as well as in the text-books, which frequently treat of them under one heading. As illustrating the influence of unsanitary environment, Dr. Morrill gives most interesting figures and diagrams, and shows that in a portion of the slums of Boston there were in one year twenty-two deaths from pneumonia and thirty-nine from bronchitis, while in a larger portion of a better part of the city there were no deaths recorded under either of these heads. We look in vain for the differential diagnosis between prolonged broncho-pneumonia and phthisis. F. C. Shattuck contributes valuable papers on "Emphysema," "Asthma," and "Hay-Fever," and A. Jacobi one on "Phthisis." The article on "Pleurisy" is well written by E. N. Whittier and H. F. Vickery, while A. T. Cabot demonstrates most clearly his method of operating on empyema. Although aspiration may sometimes cure empyema in children, he says we should not long persist with the needle, for "if the long convalescence while absorption is going on leaves a puny and weakly child, this result should not be counted a success when compared with the quick and complete recovery following a free incision."

Part IV. "Diseases of the Circulatory, Hæmatopoietic and Glandular Systems" begins with an article on "Functional Disorders of the Heart," by Da Costa. Wm. Osler follows on "Congenital Affections of the Heart" clearly written and well illustrated. The various divisions of acquired disease of the heart are written by W. B. Cheadle, J. Mitchell Bruce, and by A. E. Sansom. Cheadle regards the heart murmurs of chorea as usually organic and of rheumatic origin, and says that the murmur which appears early in an attack of rheumatism, even if it entirely disappear, is organic and not functional. Sansom advises the use of the salicylates in cases of non-compensated valvular disease, which do not respond to restorative treatment, on the theory that slow rheumatic changes are in progress. The results of original investigations on the limits and percussion area of the pericardial effusion are given, by T. M. Rotch, in a valuable article on "Pericarditis." He concludes that the fifth right interspace should be chosen for tapping.

Over one hundred pages are devoted to Part V, where are described the "Diseases of the Mouth, Tongue and Jaws." The articles are written by Roswell Park, W. W. Allchin, J. E. Mears and others, and are thoroughly illustrated. C. W. T.

Medical and Surgical Reports of the City Hospital of the City of Boston. Fourth Series. 1889.

Like one whose limbs are of unequal length, these reports advance to honor us with their greetings. The First Series, published in 1870, presented us with the most instructive parts of the hospital experience for the first five years, to June 1869. The Second Series, intended to cover the next half decade, by a long stride, appeared seven years later. The Third Series, falling back to a half-decade gait, appeared in 1882. This year, another seven-years' stride, brings before us the Fourth Series. We are inclined to think that such irregularity of gait must be due to causes beyond the control of the members of the Hospital Staff. Were a rule to issue these Reports every five years observed, we should be to-day welcoming the Fifth, instead of the Fourth Series. But the periods of time, covered by the contributions to these volumes, suggest that such a rule is not as yet in force. We call attention to these circumstances rather

by way of information than complaint. When gentlemen of large acquirements and high professional standing, with the cares of a private practice such qualities win, gratuitously render their services for many months in the year to a public hospital, for this alone they are surely entitled to our heartiest thanks. Any call upon them for the additional labor involved in gathering and analyzing statistics, and in preparing for the press monographs on medical progress, in the departments in which their work has been done, is not so much a claiming of our rights, as an expression of interest in the knowledge which our confidence in their ability and efforts to make the most of their opportunities, leads us to believe they have acquired. Apart from this, however, the publication of such reports is dependent upon the appropriations granted.

Judged by the number of pages, weight of paper, and size of type, the present as compared with the First Series is of about third-rate importance; but judged by its concise, yet sufficiently detailed form, the progressive spirit it evinces; and the successes it chronicles, it more than maintains the reputation of its staff for thorough work.

In the introduction to the Third Series, the Editors say: "We have endeavored to present such a selection of hospital cases, as may be most useful for comparison and reference." The same rule followed in compiling the present volume, gives it great practical value. The first ten articles, or fifty-six of the two hundred and twenty-seven pages, are by Dr. David W. Cheever, who since the opening of the hospital has been the most constant, and largest contributor to these Reports. We find a total of about 365 pages attributed to his authorship, or 138 pages more than the present volume contains. Although he makes mention of able assistants, nevertheless his own original and supervisory work indicates great industry and careful observation.

This "Fourth Series" opens with a paper entitled, "Cerebral Localization," suggested by the results of an operation to relieve a traumatic laceration of the brain, and by a subsequent autopsy. It gains a special value in connection with Dr. Knapp's paper, some pages farther on. Next comes a very instructive analysis of 333 cases of "Head Injury," collated and analyzed by Dr. R. W. Lovett, and J. C. Munro, (former house-surgeons). From among several practical deductions we have space only for the concluding sentences. "As regards the value of the one symptom of the reaction of the pupils to light, without regard to the injury, an analysis of 165 cases, shows its great prognostic value; that is, in any injury where the pupils reacted to light, 68% recovered; where they did not react 17% recovered. No other symptom was of such great significance."

The four following papers, one on "Exostoses of the Head and Face," a second on "Naso-Pharyngeal Polypus," a third on "Excision of Nerves," and a fourth on "Tumors of the Tongue," all illustrate the anatomical skill and methods of modern surgery, in relieving disorders which invade the strongly protected regions posterior to the face, nose, and throat, with their intricate arrangements of nerves and vessels.

Dr. Cheever next reports three instances in which he operated upon the larynx and trachea. The first in a boy six years old, involved tracheotomy, preliminary to thyrotomy. By this method "a whitish pultaceous epitheloid mass," about the size of a marrowfat pea, was removed from the vocal cords. In less than a month the child was discharged "doing well," and with "slight hoarseness." We regret that the absence of the date of the year in which, on March 6th, the operation was performed, takes from the value of this concluding line: "1889, the boy is now grown up, and remains well." For the condition relieved gains a peculiar interest from its malignant character, and its resemblance to that of the late Emperor Frederick of Germany. The second case consists of a "Fracture of the Thyroid Cartilage," conducted to recovery by tracheotomy, to relieve great dyspnœa. The third tracheal case is one of the "curiosities of surgery." "A narrow knife stabbed into the neck, avoided the carotid and sub-clavian vessels, and opened the trachea low down, without wounding the œsophagus. Dr. Cheever relieved the hemorrhage into the lungs, by performing tracheotomy low down, and inserting a very long tube." The long tube prevented bleeding into the lungs, and emphysema. In three weeks the trachea wound healed without abscess, or mediastinal infiltration.

The last report by Dr. Cheever, is that of the removal of a thyroid tumor weighing ten and a half ounces. "An enormous cavity was left." His comments are of much value:

"We have always been taught," he writes, "that hemorrhage was the chief danger in operating for bronchocele by excision. The details of this case show that in these operations death may be due to other causes. It here was accelerated by something more than ordinary shock. I believe it was due to the following causes:

"(1) Injury to the left recurrent larnyngeal nerve, in tying off the pedicle of the tumor. . . .

"(2) Injury by exposure, section and irritation of small terminal branches of the pneumogastric nerve.

"(3) The large exposure of the external surface of the larynx and trachea would tend to produce secondary complications, so also would the proximity to the pleura. . . .

"(4) In the removal of all large tumors from the neck, I have always believed the free exposure and chilling of the large and thin-walled veins had an unfavorable influence.

"(5) The length of the operation, (between two and three hours) deepened the shock, and was probably as depressing as a larger hemorrhage."

Dr. Franklin H. Hooper contributes an article on "The Mechanical Effects of Adenoid Vegetations in Children." It is an expansion and enforcement of two papers previously contributed by him to the *Boston Medical and Surgical Journal*. "Perfectly innocent in themselves, by mechanically obstructing the air-tract," these growths "may lead to results which may truly be called malignant." Dr. Hooper urges their early removal, and protests against waiting for the child "to grow out of" them. This operation, "when properly done, is not attended by any danger to the child. The growths do not recur."

Under the title "New Surgical Appliances," Dr. Francis S. Watson, figures, and explains the application and uses of "The Perineal Drainage-Tube." He then describes the method of using, and results obtained from the "tin dressing." This was suggested and applied some years ago by Dr. Henry J. Bigelow. Its object is to secure a more rapid and smoother healing of granulating surfaces. Dr. Watson says, "How-

ever this simple contrivance may act, we are convinced that the rapidity of healing of granulating surfaces is greatly promoted by it, in most instances." He next with drawings illustrates the "Buried Suture," and describes its advantages in treating incised wounds of the face and scalp, so as to avoid disfigurements. Finally he sketches and explains two contrivances for draining the surgical table when antiseptic fluids are freely used. They are of unequal usefulness. Of the second the writer says, "It is too clumsy to carry about to private operations, but is well suited for hospital use."

In a carefully studied and fully illustrated article, Dr. H. W. Cushing discusses the advantages and disadvantages of the "Right Angle Continuous Intestinal Suture," and its merits as compared with the "Interrupted Lembert Suture." He reaches the conclusion that "the most satisfactory in all respects is the former, reinforced by a similar one superimposed, or by an 'Interrupted Lembert' if isolated points only require to be secured."

The following papers by Drs. P. C. Knapp and E. H. Bradford contain a valuable discussion of "Cranio-Cerebral Topography," and of the advisabilty of operations to remove cerebral tumors. The discussion is appended to a report of a case in which they together diagnosticated, localized, and removed a cerebral tumor, and subsequently explored the brain by autopsy. Dr. Bradford describes his method of operation, and, with the assistance of Dr. E. G. Brackett, writes the "Surgical Considerations," which in the absence of "accepted traditions," he rightly thinks, will have a special value to those who may feel called to perform this operation. We notice on page 136 that the recommendation of a solution of nitrate of silver, to mark the line of localization on the shaven scalp, is at variance with the statement on page 111, that, for reasons given, tincture of iodine would be better. But this, together with a few instances of defective proof reading, is of minor importance, compared with the carefully studied and arranged procedures.

Dr. Knapp writes a concise *résumé* of the present knowledge, which should guide us in localizing and determining the advisability of removing a cerebral tumor. After a very painstaking testing of Broca's methods of measurements upon fifty skulls in the Warren Museum, in which he was assisted by Dr. J. A. Jeffries, Dr. Knapp found "Broca's method for finding the bregma utterly inaccurate. The fullest and most accurate methods are the modification of the Thane-Horsley method as given by Dana."

Dr. E. H. Bradford next reports "Nine Cases of Amputation of the Hip-Joint" to relieve disease, with but one death from the operation. His final contribution is an article in which he figures and describes an "Apparatus for Forcible Correction of Subluxation of the Tibia." Its action is illustrated by cases in which it was successfully used. Its limitations are stated, and also the cases for which it is appropriate.

"Westphal's Parodoxical Contraction," is the subject of an instructive paper by Dr. Morton Prince. It is derived from a study of four cases with which he has met, and also from an analysis of what has been written on this theme. The rarity of these cases, and the novelty of their explanation hitherto, gives a special interest to this discussion. We have space only to state the two pregnant concluding sentences. "The nature of the pathological change upon which the increased irritability of the muscle in the abnormal phenomenon depends, is as yet unknown. The diagnostic value of the symptom is still undetermined."

Dr. Abner Post contributes a case of "Congenital Dislocation of the Hip, successfully treated," and farther on, in a more lengthy article, gives us an "Abstract of Surgical Proceedings at the Hospital." The latter includes valuable suggestions concerning operations upon the larger blood-vessels; upon the comparative value of tracheotomy and intubation in the treatment of croup; upon laparotomy; and upon a plastic operation for extroversion of the bladder, with illustrative cases.

"A Summary of Two Thousand Cases of Diphtheria, Scarlet Fever, and Measles," by Dr. A. L. Mason, is full of interesting comparisons and deductions. We snatch a few brief statements:

"Out of 365 cases of measles, but five died. The mortality from scarlet fever was 8.5. In this latter affection, albuminuria was present in one-fifth of the cases. A much more frequent complication was a condition which could not be distinguished from diphtheria. The effect of over-crowded sections of the city in propagating diphtheria does not seem to be so great as would be supposed. Most cases which develop heart-failure die either gradually or suddenly. In such cases "the impairment of the pneumogastric functions regulating the heart, stomach, respiration and voice, is very noticeable, and a sufficient explanation would seem to be the proximity of the vagus to the mass of infiltrated and infected tissues."

Dr. T. M. Rotch's "Notes on Infant Feeding, should have a much larger circulation than these reports furnish. The frequency with which the physician is called to apply such knowledge, and the large proportion of the population whose lives depend upon such teachings, will insure a hearty welcome to this thorough study of the principles of nourishing infants.

The final article is a report by Dr. Francis H. Williams, of "Two Cases of Chyloua Urine." They are chiefly interesting by reason of the rarity of the affection they illustrate, and the thoroughness of these observations. The concluding sentences invite to farther study, thus: "The cause of chyluria is not well understood. . . . The most plausable theory is, that the cause is to be found in some anatomical change which permits the mixture of chyle with the urine."

These reports, as a whole, call to mind and illustrate President Cheever's Address this year before the American Surgical Association, entitled "The Future of Surgery Without Limit." Such study, such alertness and ingenuity, reinforced by so many evidences of progress, must surely impel along lines of advance, whose limits only future generations may discern. That the Boston City Hospital Staff have the reward of counting so many profitable results, their brethren will congratulate them. The public, also, are to be congratulated that the trustees, by a liberal construction of their powers, continue to favor the publication of Reports of this character. Many of these papers are not so much statements of proceedings as open letters of instruction, based on knowledge largely acquired through hospital practice and association. By their publication the philanthropic work of this institution is reduplicated. We regret that, while measures by which so much suffering has been relieved are easily understood, the experience and skill of their eminent originators cannot be as easily imparted.

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ANNUS MEDICUS MDCCCLXXXIX.

As many times before, so again, the closing days of the year admonish the JOURNAL of its duty to assist its readers in their reminiscent reflections on what the old year has brought to and taken away from the sum total of their professional interests. We are so optimistic as to believe that the grand trial-balance, of which we can but so imperfectly mention an occasional item, shows a preponderance to the credit of the medical profession, albeit we have, as usual, to chronicle serious losses by the hand of death.

Early in the year the New York City Board of Health requested Drs. Prudden, Biggs and Loomis, to prepare for the public information a statement as to the cause and the communicability of tuberculosis. This report was presented in June, and from the authority of its framers received a wide attention. It took the ground that the tubercle bacillus, of Koch, is the cause and the only cause of the disease; that the bacilli do not grow outside the body, but that even though dried, they continue to live for a long time; that infection, while it may be produced by tuberculous meat and milk, is nevertheless, generally caused by inhalation of bacilli from the lungs of consumptive patients, and that the greatest danger of such infection lies in germs which float in the air from dried sputa; that, therefore, the essential factor in prophylaxis is the sterilization of the sputa of the phthisical, and the prohibition of expectoration upon carpets, handkerchiefs and especially upon the ground.

The chronicle of epidemiology is fortunately brief.

The cholera confined itself chiefly to its habitat, or at least to the Asiatic continent. In May the number of deaths in the presidency of Madras were reported as from 1,000 to 1,500 weekly. In the autumn months it attained quite a prevalence in Mesapotomia, chiefly in the towns and villages on the Euphrates and Tigris, Bagdad being nearly the centre of the disease. The deaths for a time were 200 a week, and considerable alarm was felt at Constantinople, which fortunately, however, turned out to be without foundation. The scourge still continues in Mesapotomia, where the deaths, up to November 18th, have amounted to upwards of 7,000.

Having first ravaged Smyrna, dengue appeared at Magnesia, Asia Minor, two and one-half hours by rail from Smyrna, at the beginning of August, 1889, and prevailed in the form of a severe epidemic. Three-quarters of the population, which numbers 40,000, were afflicted. About the middle of August it appeared in Salonica, where it was sporadic and benign. It reached Dardanelles in the latter part of September. The Jewish quarter of this city was the first attacked. There were but few cases in the Greek and Armenian quarters. It has also been reported at Jerusalem.

Early in July the plague was reported as having broken out in the Turkish Dependencies in the Southwestern coast of Arabia, bordering on the Red Sea. This disease has not unfrequently of late years appeared in Arabia, last, we believe, in 1879. In that same year it invaded Astrachan. It has not obtained a foothold in Europe since the first half of the 18th century.

A fatal case of yellow fever occurred at Sanford, Fla., in the latter part of April, somewhat accelerating the homeward movements of the northern winter resident, who was considerably less numerous, by the way, than the preceding winter, on account of the epidemic of 1888. A mild winter also doubtless contributed to lessen the amount of southern travel. The health authorities of Florida, perhaps wiser from their experience of the previous year, showed no disposition to dissimulate regarding the existence of the disease, and perhaps their prompt acknowledgment of the very few cases that existed saved them from an involuntary acknowledgment of a much larger number that might otherwise have occurred.

Finally, as we write, we are beginning to feel what are perhaps the first pattering drops of the shower of epidemic influenza, which, during the last two weeks has passed over most of Europe. In Paris and St. Petersburg and to a less degree in other cities it has temporarily laid aside thousands of people from their accustomed pursuits, and while not contributing to the mortality returns, has proved a serious bar to individual happiness and sometimes even to corporate business enterprise. The bacteriologists have hopes of detecting a new bacterium, unless their own eyes are too soon closed by coryza to microscopic exploration.

The rapidly increasing use of electricity for illuminating and mechanical purposes has proved of interest to medical men during the past year, unfortunately less from its utilitarian than its destructive qualities. The ophthalmologists have noticed what one of them has named "photo-electrical ophthalmia," characterized by lachrymation, photophobia, and peri-orbital pain. The aurists have their share in the correction of electrical mischief through the "telephone ear." But the great bulk of the trouble has fallen upon men, by no means all

of them connected with line-work, through coming in contact with "dead" wires which in some way overlay or touched "live" wires of the electric lighting companies. Of late almost every week has witnessed in all of the large cities some such disaster, usually fatal. Horses and other animals have been killed in a similar way. Great difficulty has been experienced in the attempt on the part of municipalities generally to compel the removal of dangerous overhead wires, but within the past week a decision of the Supreme Court of New York abundantly affirms that right; the judge saying that whatever rights corporations have "acquired by legislative grant are subject to the dominant laws of public safety." It seems by no means certain that even the burying of wires which carry currents of high intensity is going to secure immunity from danger, but the words of the above decision give promise of a holding of electrical corporations to a strict surbordination to public safety, even, if necessary, in the amount of electro-motor force which they may employ.

The use of electricity as a means of enforcing the death-penalty, which was made obligatory in New York after the first of January, 1889, has not been tried, as Kemmler, the man who should first have experienced its lethal action, has, through his counsel, set up the claim that the law is unconstitutional as providing a "cruel and unusual" punishment. After much expert testimony, the electric companies generally taking the ground that the electric fluid would not prove lethal, the county judge decided the law to be constitutional, but the matter has been appealed to a higher court. If the Court of Appeals reverses the decision, the condemned man will escape altogether, for no other means of execution is provided by law. Hence the prosecuting officers are delaying the trial of all other persons accused of murder (now some twelve in number), until the question has been decided, and some legal method of execution has been assured whereby these men, if guilty, can be punished. Mr. Edison has recently sent a communication to the Paris Academy of Sciences on the subject of electricity as a means of capital punishment, in which he says, that the alternating current can be made to produce a certain and painless death.

The Maybrick case was one of exceptional medico-legal interest, which occupied much public and professional attention through the summer. Mr. Maybrick, a cotton merchant of Liverpool, died with indeterminate symptoms, May 11th, and, in the protracted trial which followed, the questions, which were argued at great length and were made the subject of opposing expert testimony by many of the leading toxicologists of England, were (1) Did he die of arsenical poisoning? and (2) Was arsenic administered by his wife? The jury finally decided both questions affirmatively. American interest in the case was due not only to the free exchange of intelligence and general expression of opinion on points of technical investigation, but to the fact that the accused was an American.

The Cronin case, on this side of the water, offers a marked contrast to the Maybrick case in the social standing of the accused persons, but also contains many points of medico-legal interest. Dr. Cronin, a practising physician of Chicago, an Irishman of strong political convictions, but a somewhat obstructive member of the Clan-na-gael, went, in answer to a professional call, to a lonely house some distance from his home and never returned. The house was located, human blood stains found, and on strong but purely circumstantial evidence three men, members of the Clan-na-gael, were, after a long and interesting trial, found guilty of murder and received life-sentences. A fourth man, who summoned and conducted the doctor to the fatal spot, was found guilty of manslaughter and sentenced for three years; and a fifth, Beggs, an officer of the Society, who had appointed a committee to "investigate" Dr. Cronin's actions, was acquitted. This verdict absolves the Society from official responsibility in the murder, though the guilty men, as being all members of the Society, may reasonably be deemed to have supposed their action was in its interest.

But little progress has been made this year in securing legislation protecting the community against incompetent medical practitioners. The Massachusetts lower house passed such a bill, which was thrown out in the upper house. A similar movement in several other States failed, owing to the active opposition and political and newspaper influence of the class at whom the proposed legislation was aimed. Meantime, the United States Supreme Court has, on appeal from the decision of West Virginia courts, approved the constitutionality (which had been denied) of State laws regulating the practice of medicine. The States of Tennessee and North Carolina, and possibly some others have, however, succeeded in accomplishing such legislation.

On the first of June occurred one of those awful disasters which, though local in situation, compel the attention of the world and offer a field for the display of brotherly-kindness, which is never wanting when such an occasion arises. The bursting of the dam on the Conemaugh River and the destruction of Johnstown and the adjacent villages are too fresh in the minds of our readers to need more than a mention. In that disaster six physicians were drowned and twenty-one lost their all. To the immediate devastation of the flood ensued a period of sickness among the survivors due to the exposure, to the submergence of the country for days, and to the decomposition of human and animal remains. In the subsequent weeks, the services of medical men were needed and were freely given to render aid to those who suffered from the exposure and its effects. In the outpouring of money for the relief fund, which proved to be so much larger than was needed for the repair of reparable injuries, we believe the medical profession bore its full share.

An example of heroism, which none better than physicians know how to appreciate, was given the

world, in the death during the early spring of Father Damien, a Jesuit priest, who, in 1873, went to Molokai, the island set apart to the leper population of the Hawaian Islands. There for sixteen years he labored for the spiritual and material welfare of a people who, from regarding themselves as social and physical pariahs, had come to look upon themselves as outside the pale of morality and decency. After caring for the living and burying the dead for many years, the expected happened. The disease gained a foothold on himself. For many months before his death he had watched upon himself the advancing footsteps of disease, as it invaded eyebrows and face and extremities, until it finally carried him off at the comparatively early age of forty-eight. A memorial, which for the present generation it is to be hoped will be unnecessary, is to be raised to his name. It is worth mentioning by the way, though it is so natural a fact that it seems not to have attracted public attention at all, that the resident physician of Molokai, Dr. Hoffman, has become a leper.

The death of Laura Bridgman, outside of the personal interest which the profession and the community at large had for many years felt in her peculiar case, has served to suggest most strongly the advance in the treatment of the blind and the deaf mute in the last decade or two. The education of these unfortunates is a recent achievement, and is no longer the rarity it was when Dr. Howe first described to a wondering public the case of Miss Bridgman.

Early in the year a new therapeutic measure was proposed to the profession by Charcot, namely, the treatment of tabetic patients by suspension, practiced as orthopædic surgeons have been wont to employ it in the application of plaster jackets. The new treatment has been used very generally, and a number of articles have been published, mostly favorable to its effect in at least certain cases of ataxy. It is probably too soon, however, as yet to draw definite conclusions as to the value of the treatment and the indications for its employment.

After long preparation, this year has witnessed the completion and the dedication of its work of that magnificent charity, the Johns Hopkins Hospital of Baltimore. On May 7th, by formal exercises with an address by Dr. John S. Billings, the hospital was opened, and after a few days, during which the medical profession and the general public had an opportunity to examine the complete equipment which has been provided, the regular ministrations of the hospital began. Dr. Billings, who it may be assumed knows whereof he affirms, said "I do not hesitate to affirm that these are the best built buildings of their kind in the world." We may well congratulate ourselves that in the year just closed we have gained in this country a new means for the study of the problems of disease, and one whose possibilities for future usefulness are beyond estimation.

In this connection we also note with satisfaction as having a possible influence on the education of future physicians, the opening, in September, of the new Clark University, at Worcester, Mass., which is supposed, by the generosity of its founder, to be provided with a sufficient endowment to secure the best teaching in various departments of science, and is able to enter at once upon its work with an equipment which most American universities secure only after years of effort.

One of the humors of the year, destined perhaps to take its place in the medical histories with the metallic tractors and condurango, has been Dr. Brown-Séquard's "elixir" for reviving the waning powers of the aged. Brought before the public attention, in June, by two formal communications to the *Société de Biologie*, the proposal attracted a wide-spread interest, and the testicular juice of the guinea pig and rabbit was exploited by the papers as a veritable elixir of perpetual youth. It is fair to say that the term *elixir vitæ* was not the inventor's name for this specific, and that he never claimed for it quite what he was represented to have done. But a "craze" happened to be needed about that time, and this served a very good purpose. A few experimenters, out of respect to the authority of the distinguished physiologist, tested it, and some other persons, desirous of notoriety, used the "elixir" as purchase money for what they wanted. But in the hands of the latter, the injection of a putrescible animal substance began to produce, as might be expected, septic results which speedily brought the treatment out of the category of the merely foolish into that of the positively dangerous fads, and the Brown-Séquard elixir is already as dead as the glands from which it was derived.

Some of the more important medical gatherings of the year have been as follows:

The American Surgical Association held its annual meeting at Washington, May 14th to 16th; the American Medical Association held its fortieth annual meeting at Newport, R. I., June 25th to 28th; the American Laryngological Association had its eleventh annual congress at Washington, May 30th to June 1st; the American Climatological Association held its sixth annual meeting at Boston, June 24th and 25th; the American Otological Society held its twenty-second annual meeting at New London, Conn., July 16th; the American Ophthalmological Society held its twenty-fifth annual meeting at the same place the two following days, July 17th and 18th; the American Neurological Association held its fifteenth annual meeting at Long Branch, N. J., June 26th and 27th; the American Rhinological Association met at Chicago, August 28th to 30th; the American Dermatological Association held its thirteenth annual meeting in Boston, September 17th to 19th; the American Pediatric Society held its first annual meeting in Washington, September 20th and 21st; the Association of American Physicians had its fourth annual meeting at Washington, September 18th to 20th; the American Gynecological Society held its fourteenth annual meeting at Boston, September 17th to 19th; the American

Orthopedic Association held its third annual meeting in Boston, September 17th to 19th; the British Medical Association met for the fifty-seventh time at Leeds, August 13th to 16th; the eighth German Congress of Internal Medicine met at Wiesbaden, April 15th to 18th; the sixth Italian Surgical Congress met at Bologna, beginning April 16th; the German Surgical Congress met at Berlin, April 24th to 27th; the sixty-second annual meeting of German Naturalists and Physicians was held at Heidelberg, September 17th to 23d; an International Congress of Medical Jurisprudence held its first meeting in New York, June 4th to 7th; the twenty-first annual meeting of the Canadian Medical Association took place at Banff, N. W. T., August 12th to 14th; the American Association for the Advancement of Science met in Toronto, beginning August 28th; the American Academy of Medicine met at Chicago, November 13th to 17th; the American Public Health Association held its seventeenth annual meeting at Brooklyn, October 22d to 25th; the Association of American Anatomists, holds its second annual meeting in Philadelphia, December 26th to 28th.

Paris, as the seat of the World's Exposition of 1889, attracted to itself the meetings of many learned societies, among them the following of a medical character: A Congress of Hypnotism, August 8th to 12th; an International Congress of Therapeutics and Materia-Medica, August 1st to 5th; an International Congress (the 2d) of Climatology, October 3d to 10th; the fourth annual Congress of French Surgeons, October 7th to 13th; an International Congress for the Suppression of Alcoholism, July 29th to August 1st; an International Congress of Hygiene (biennial session); International Congress of Dermatology and Syphilography, August 5th to 10th, under the presidency of Dr. Ricord, one of his last public appearances.

Among the formal statements of medical consensus and progress, connected with the established lectureships in England and America, are the following:

The Lettsomian Lectures on "Syphilis and the Nervous System," were delivered before the Medical Society of London, by W. R. Gowers, M.D., F.R.S.; the Milroy Lectures on "Occupations and Trades in Relation to Public Health," were delivered before the Royal College of Physicians of London, by John T. Arlidge, M.D.; the Gulstonian Lectures on "Secondary Degenerations of the Spinal Cord," were delivered at the Royal College of Physicians of London, by Howard H. Tooth, M.D., F.R.C.P.; the Lumleian Lectures on "Enteric Fever," were delivered before the same body, by John Harley, M.D.; the Harveian Lectures on "The Various Manifestations of the Rheumatic State as Exemplified in Childhood and Early Life," were delivered before the Harveian Society, of London, by W. B. Cheadle, M.D.; the Cavendish Lecture on "The Relation between Disease and Regulating Nervous Centres," was given at the W. London Hospital, by J. Andrew, M.D.; the Croonian Lectures on "The Relation between Chemical Structure and Physiological Action," were delivered before the Royal College of Physicians, of London, by T. Lauder Brunton, M.D., F.R.S.; the Bradshawe Lecture on "The Distribution and Duration of Visceral New Growths," was given before the Royal College of Physicians, of London, by Norman Moore, M. D.; the Morton Lecture on "Cancer and Cancerous Diseases" was delivered before the Royal College of Physicians, by John Marshall, F.R.S., etc.; the Cartwright Lectures on "Vital and Medical Statistics," were delivered before the Alumni Association of the College of Physicians, of New York, by John S. Billings, M.D., United States Army; the Toner Lecture was delivered at Washington, by Prof. Harrison Allen, of Philadelphia, on "The Clinical Study of the Skull, especially undertaken in connection with the morbid conditions of the jaws and nasal chambers"; the Middleton-Goldsmith Lecture was delivered before the New York Pathological Society, by Dr. R. H. Fitz, of Boston, and was upon "Acute Pancreatitis with Especial Consideration of Pancreatic Hæmorrhage, Hæmorrhagic Pancreatitis and Dissemminated Fat Necrosis." It was published in this JOURNAL.

GENERAL NECROLOGY.

Nathan Allen, M.D., LL.D., of Lowell, Mass., formerly member of the Massachusetts State Board of Charities, a voluminous writer on medical and hygienic subjects, died January 1st, aged seventy-six.

Heinrich Alexander Pagenstecher, physician, professor of zoology at the University of Heidelberg, student especially of trichinæ, died at Hamburg about the first of the year, aged sixty-three.

Johann Wagner, M.D., for forty years professor of medicine at the University of Buda Pesth, died January 2, aged seventy-eight.

John C. Dalton, M.D., president of the College of Physicians and Surgeons of New York, formerly professor of physiology in the University of Buffalo, the Vermont Medical College and the Long Island College Hospital, the author, among many productions, of a standard treatise on Physiology, died February 2, age sixty-four.

Carl Zeiss, of Jena, maker of lenses, microscopes and microscopical instruments, died early in the year, aged seventy-three.

Dr. Isidor Soyka, professor extraordinary of hygiene in the University of Prague, enthusiastic worker in sanitary science, died by suicide, February 23, aged thirty-nine.

James W. Ranney, M.D., of New York, one of seven brothers in the medical profession, Commissioner of Lunacy, surgeon to many railroad corporations, died February 28, aged sixty.

Chas. J. B. Williams, M.D., F.R.S., F.R.C.P., etc., of London, Gulstonian and Lumleian lecturer, founder and consulting physician of the Brompton Consumption Hospital, founder and first president of the Pathological Society of London, and of the new Sydenham Society, president of the Royal Medical and Chirurgical Society and physician extraordinary to

Her Majesty, died at Cannes, March 24, aged eighty-four.

Franz Cornelius Donders, M.D., physiologist, ophthalmologist, professor extraordinary to the Faculty of medicine in the University of Utrecht, author of many standard works, notably of "Anomalies of Refraction and Accommodation," died March 24, aged seventy-one.

R. Palmer Howard, M.D., LL.D., professor of clinical medicine and later of the theory and practice of medicine in McGill University and dean of the Faculty, formerly president of the Canada Medical Association, vice-president of the Association of American Physicians and a widely-read author on medical subjects, died March 28, aged sixty-six.

Edward T. Bruen, M.D., assistant professor of physical diagnosis at the University of Pennsylvania, visiting physician to the Philadelphia Hospital, a prolific medical writer, died March 31, aged thirty-eight.

Michel Eugene Chevreuil of France, chemist, professor in the Museum of Natural History and director of the same, member of the Académie des Sciences for more than three-quarters of a century, died April, aged one hundred and three.

Joseph Rogers, M.D., the Howard of the English workhouses, a life-long reformer in reference to the management of the sick and disabled of the urban population of England, died April 3, aged sixty-nine.

Jerome H. Kidder, M.D., surgeon, United States Army, formerly chemist and microscopist of the United States Naval Department at Washington, naturalist and chargé of the Bureau of Exchange of the Smithsonian Institution, died April 8, aged forty-eight.

Samuel W. Gross, M.D., of Philadelphia, son of the late Prof. Samuel D. Gross, professor of surgery in the Jefferson Medical College, author of a monograph on Tumors of the Mammary Gland, died April 16, aged fifty-two.

James B. Hunter, M.D., of New York, gynecologist, attending surgeon to the Women's Hospital, formerly editor of the *New York Medical Journal*, died June 10, age fifty-two.

Dr. August Breisky, professor of Gynecology at the University of Vienna, died in June, aged fifty-seven.

Charles Bland Radcliffe, M.D., F.R.C.P., of London, a prolific medical writer, especially on diseases of the nervous system, a former Gulstonian and Croonian lecturer, died June 18, aged sixty-seven.

Count Pietro Loreta, a surgeon of Bologna, a pioneer in the surgery of the abdominal viscera, died by his own hand, July 19, aged fifty-eight. His students had erected two tablets in the Infirmary and the University commemorating him as the first successful performer of resection of the liver and of digital divulsion of the pyloric and œsophageal orifices of the stomach.

Alexander B. Mott, M.D., of New York, son of the late Dr. Valentine Mott, a founder of St. Vincent's Hospital, a founder of Bellevue Hospital Medical College and professor therein of surgical anatomy and of clinical and operative surgery, died August 12, aged sixty-three.

Jas. L. Cabell, M.D., professor of anatomy in the University of Virginia, superintendent of all the military hospitals of the Southern Confederacy, president of the National Board of Health, died August 13, aged seventy-six.

Thomas King Chambers, M.D., F.R.C.P., of London, clinical lecturer and medical writer, especially on dietetics, died August 15, aged seventy-two.

Prothero Smith, M.D., F.R.C.P., an obstetrician and gynecologist and inventor of many instruments connected with his specialty, founder of the first hospital for women in London (in 1842), died September 29, aged eighty.

Dr. Pietro Laura, of Genoa, once a medical volunteer in the ranks of young Italy, then a pioneer in the Argentine Republic, finally a practitioner of eminence in his native country, died in October, aged sixty-nine.

Philippe Ricord, syphilographer, died in Paris, October 22, aged eighty-nine.

Isaac C. Taylor, M.D., a founder of Bellevue Hospital Medical College and its president since 1861, professor of obstetrics and diseases of women and children, and founder of the American Gynecological Society, died in New York, October 30, aged seventy-seven.

NECROLOGY OF THE MASSACHUSETTS MEDICAL SOCIETY.

James John O'Conner, M.D., of Holyoke, died December 14, 1888, aged forty-six.

Charles Lamson Swasey, M.D., of New Bedford, died December 24, 1888, aged seventy-three.

Nathan Allen, M.D., of Lowell, died January 1, 1889, aged seventy-five.

Herbert Stanton Jordan, M.D., of Waltham, died January 10.

William Gilman Buck, M.D., of Springfield, died January 22, aged seventy.

George Wyman Fay, M.D., of East Weymouth, died February 5, aged fifty-five.

Almon Mitchell Orcutt, M.D., of Hardwick, died February 11, aged sixty-four.

John Bunker Taylor, M.D., of East Cambridge, died February 15, aged sixty-seven.

Frederick Winsor, M.D., of Winchester, died February 25, aged fifty-nine.

James Frederick Harlow, M.D., of Quincy Point, died March 8, aged sixty-nine.

George Hubbard, M.D., of Boston, died March 19, aged eighty.

Franz Cornelius Donders, M.D., (Hon. Mem.) of Utrecht, Holland, died March 24, aged seventy.

Henry Augustus Barrett, M.D., of Concord, died April 6, aged seventy.

Edwin Charles Bullard, M.D., of Dorchester, died April 12, aged forty-eight.

Herbert James Harriman, M.D., of Revere, died April 14, aged thirty-one.

John Leland Miller, M.D., of Sheffield, died April 18, aged seventy-six.

William Neilson, M.D., of Salem, died May 3, aged eighty.

William Read, M.D., of Boston, died May 6, aged sixty-nine.

Abner Marshall Smith, M.D., of Pittsfield, died May 23, aged sixty-eight.

Daniel V. Folts, M.D., of East Boston, died May 28, aged seventy-three.

Jonathan Mann, M.D., of Boston, died June 15, aged seventy-three.

John Burke, M.D., of Boston, died June 21, aged forty-two.

Austin White Thompson, M.D., of Northampton, died July 11, aged fifty-four.

John Bowne King, M.D., of Nantucket, died July 27, aged eighty-one.

Le Baron Russell, M.D., of Boston, died August 19, aged seventy-six.

Herman Brimmer Inches, M.D., of Boston, died August 19, aged seventy-six,

Thomas Luce Chapman, M.D., of Longmeadow, died August 20, aged seventy-two.

Edward Goodrich Ufford, M.D., of Agawam, died August 25, aged eighty-eight.

David Augustus Grosvenor, M.D., of Danvers, died September 27, aged seventy-eight.

Alphonso Brooks, M.D., of South Boston, died September 30, aged eighty-nine.

Charles Haddock, M.D., of Beverly, died October 10, aged sixty-seven.

Levi Farr Warner, M.D., of Boston, died October 12, aged sixty-seven.

Nathan Snell Babbitt, M.D., of North Adams, died November 5, aged seventy-seven.

Moses Collins Greene, M.D., of West Somerville, died November 20.

James Milton Stickney, M.D., of Pepperell, died November 28, aged seventy-nine.

It is worthy of note that the average age of the decedent members of the Massachusetts Medical Society, so far as recorded, reached the high figure of *sixty-eight and one-half* years, a fact which speaks well for the salubrity of the conditions attending medical practice in the Bay State. To such a green old age we desire that all our readers, even the many who are by adverse circumstances deprived of the privileges of a residence within the limits of Massachusetts, may in due time safely arrive, and to this good wish we join all others of holiday cheer!

MEDICAL NOTES.

— A movement has just been started by some of the local boards of health in Massachusetts, says the *Boston Herald*, looking to the formation of an association which will include the health officials of the different cities and towns in the State. The purposes of this organization, as set forth in a circular that has lately been sent out, will be to discuss topics and hear papers of sanitary interest; to aid legislation and secure uniform interpretation and enforcement of existing statutes in relation to the public health; to compare the rules of local boards and city ordinances for the purpose of advancing the objects for which they are framed; to secure co-operation between local boards in all the work which they are called upon to perform, and last, but not least, we presume, to establish pleasant and helpful social relations between the boards of health thoughout the commonwealth. A preliminary meeting for organization is to be held in Boston at an early day, by invitation of the city board of health.

NEW YORK.

— A ten-year-old boy died of hydrophobia in Brooklyn, on December 17th. Two months ago he was bitten in the nose by a street cur.

— The International Medico-Legal Society held its annual meeting and banquet December 18th. On this occasion the President, Mr. Clark Bell, delivered an address on "Hypnotism," and Judge Charles G. Garrison, of the New Jersey Supreme Court, read a paper on "The Proper Province of Medical Expertism." Mr. Bell was re-elected President.

— At a meeting of the New York Academy of Medicine held December 19th, Dr. Robert W. Taylor, who has been making a long course of observations on the subject, read a paper on "Chronic Inflammations of the External Genitals of the Female, with a Consideration of the Question of Lupus or Esthiomene of these Parts." At this meeting the Academy formally accepted the gift of $5,000 left by the will of the late Dr. Wesley M. Carpenter to found a lectureship to be known as the "Carpenter Lecture." The first lecture will be given during the present winter. A committee of twenty was appointed at the same meeting to collect funds for the new building of the Academy.

— The roof and top floor of the north wing of the Presbyterian Hospital were destroyed by fire, from some unknown cause, on the evening of December 19th. Fortunately, all the patients were got out without injury, by the aid of the police and citizens who volunteered for the duty. Four firemen, however, were more or less severely injured by the sudden falling in of a portion of the roof, and were conveyed to the neighboring Mount Sinai Hospital. Many of the patients were at first carried to a club-house and to private residences near by; but they were all eventually taken in ambulances to Mount Sinai, St. Luke's, the German, and other hospitals. One of the patients, who was in a dying condition at the time, from abscess of the liver, which had been operated on, died in a few hours, but all the others are reported to be doing well. It is expected that they can all be taken back to the Presbyterian Hospital during the present week.

— Dr. Charles Henry Nichols, Superintendent of the Department for the Insane of the New York

Hospital (Bloomingdale Asylum), died December 17th, at the institution. Last summer he was sent abroad by the Board of Governors to examine the construction and management of hospitals for the insane on the Continent, with a view to rendering the new asylum about to be erected at White Plains, West Chester County, as complete as possible in its construction and appliances, in accordance with the latest scientific advances made in connection with such institutions. Since his return his health has been gradually failing. Dr. Nichols was born at Vassalborough, Kennebec County, Me., October 19, 1820. His academic education was completed at the Friend's School, Providence, R. I., and he afterwards studied medicine in the University Medical School, New York, but was finally graduated from the Medical Department of the University of Pennsylvania in 1843. He practised in Lynn, Mass., until 1847, when he became assistant physician to the New York State Lunatic Asylum at Utica. In 1849 he received an appointment at the Bloomingdale Asylum, which he retained till 1852, when he went to Washington on the invitation of President Filmore, to establish a hospital for the insane of the army and navy and of the District of Columbia, an institution which was three times enlarged under his administration. During the war he was acting assistant surgeon in the army, and in connection with the General Goverment Hospital for the Insane, conducted a General Hospital for United States Volunteers. In July, 1877, he accepted the invitation of the Governors of the New York Hospital to return to the Bloomingdale Asylum, and up to the time of his death he remained superintendent of that institution. Dr. Nichols was highly esteemed as an expert alienist, and was a frequent contributor to the *American Journal of Insanity*. For a number of years he was President of the Association of Medical Superintendents of American Institutions for the Insane.

Miscellany.

THE TWENTY-FIFTH ANNIVERSARY OF THE BOSTON CITY HOSPITAL.

THE twenty-fifth anniversary of the Boston City Hospital was celebrated by a dinner at the Parker House, Wednesday Evening, December 18th. Covers were laid for between fifty and sixty people. There were present past and present members of the Board of Trustees; past and present members of the Medical, Surgical and Out-Patient Staffs; and two out of the three Superintendents whom the hospital has had since its beginning. Mr. Joseph A. Tucker, President of the Board of Trustees, presided, assisted by Hon. H. H. Sprague, Secretary of the Board.

Among those who spoke after dinner were Ex-Mayor Lincoln, Mayor of the city in 1864; Judge Walbridge A. Field, of the Supreme Court; Drs. Williams, Cheever, Blake and Lyman, of the Staff; Dr. Edward Cowles, for the Superintendents; Dr. C. M. Green, for the Out-Patient Staff.

The fact was referred to that formerly there was no place in the city for the reception of the usual contagious diseases; that not so very many years ago, there was no hospital which would take a case of typhoid fever. Notwithstanding such facts, the proposal for the establishment of a city hospital met with serious and persistent opposition in various quarters. The opponents generally suggested that a wing be added to the Massachusetts General Hospital. The requisite appropriations were made during the severest period of the strain of the Civil War, the necessity for the institution having been amply proved. There were further difficulties about procuring a site, the legislature having in the mean time enacted that no hospital should be established in the city limits within three hundred feet of a schoolhouse. Finally, by June, 1864, the buildings had been finished, equipped, delivered over to the charge of the first board of trustees, and were open for the reception of patients. The annual reports, and the four volumes of reports issued by the medical and surgical staff, tell the subsequent history of progressive, rapid, harmonious growth; of professional industry and devotion. Notwithstanding the large annual appropriations necessary for its support, it is generally recognized by those competent to judge, that the hospital is an economy to the city.

The remarks of Dr. David W. Cheever, embracing the necrology of the staff, were as follows:

MR. PRESIDENT AND GENTLEMEN, — As one of the three original members of the hospital staff still on duty in its service, I can but review seriously the changes that death has caused in our *personel*. Our consulting board has lost six members: Drs. Townsend, Reynolds, Lewis, Jeffries, Durkee and J. Homans. The medical staff, one, Dr. Arnold. The out-patient department, two, Drs. Damon and Haskins. The visiting staff of six surgeons has contained thirteen in these twenty-five years, of whom *seven* have died: Drs. Steadman, Ropes, Derby, Buckingham, Thaxter, Thorndike, Charles Homans, all have passed away. Their lives were devoted to duty, and to untiring self-sacrifice in the relief of humanity and the pursuit of truth. Their memory should encourage not sadden us. As in their day, so ever since, harmony has been one of the best characteristics of our hospital staff. No scandal has smirched our hospital; no discord has defeated our counsel. We have worked together, helped each other, and have been sedulous for the good repute of all. I say this in no spirit of self-assertion, but in the belief that those who succeed us, will make their future equal to our past.

The hospital doctor toils among the poor; and his reward is in seeing health restored, happiness increased, suffering eased.

The laborer, whose necessity drives him to the hospital, gets more skilled care in medicine, in surgery, and in nursing, than the rich man often receives; and he attains a larger percentage of speedy recovery.

The care of the sick and injured is the first duty of a hospital, but it is not the only one. The advancement of medical and surgical science, the teaching of others, is one of its highest functions. He who teaches, learns. Happily, in this community, benevolence tempers poverty; the skill begot of experience relieves the hospital sufferer; and a broad humanity shields the patient from abuse, in clinical teaching.

It is not the least of the fruits of our labors, that the City Hospital has educated, as its *internes*, more than two hundred young doctors, now scattered all over the United States.

I may be permitted to refer, also, to the four volumes of Scientific Reports this hospital has published, which are of permanent value in their records and statistics.

During the year 1864, four hundred and seventy-five patients were received into the City Hospital. In the year 1889, nigh five hundred are *daily* inmates. A quarter of a

century can show few such growths. Our hospital to-day is equal in its appointments, its comforts, and its management, to any in the world.

The causes of this excellence are four in number: the liberal charity of your city; the patient care of its trustees and its superintendents; the devotion of its medical and surgical staff, and of its internes; the trained nursing which it has developed within in its own walls.

Twenty-five years have passed. Many of us will not see the fiftieth anniversary. But the City Hospital will be here; and its shadow will not be less.

THE WORCESTER MEMORIAL HOSPITAL AND WASHBURN DISPENSARY.

AT the annual meeting of the Board of Trustees of the Memorial Hospital and Washburn Free Dispensary of Worcester, the following staff was appointed: Consulting Board, Drs. George E. Francis, Emerson Warner and John G. Park; Active Staff, Department of Women, Drs. Leonard Wheeler, O. H. Everett, Samuel B. Woodward; Department of Children, Drs. Lemuel F. Woodward, George O. Ward, Homer Gage; Staff of Dispensary, Visiting Physicians, O. H. Everett, A. C. Getchell; Oculist and Aurist, Dr. David Harrower, Jr.; Gynecologists, Drs. Wm. H. Danforth and Homer Gage; Dermatology, Dr. O. H. Everett; Laryngologist, Dr. A. C. Getchell; Orthopedists, Drs. Lemuel Woodward and George O. Ward.

The Memorial Hospital was opened in June, 1888. During this period there have been admitted 279 patients, of whom 158 were adults and 109 children under the age of fourteen.

The annual report of the Executive Committee gives some interesting details of the work of the hospital. Of the whole number of cases treated 188 have been classified as surgical and 79 as medical, and the very large proportion of the former has not arisen from an influx of accidents and casualities. It is to be attributed to the fact that the hospital offers inducements to a large and very important class of surgical patients who have been hitherto unprovided for in this vicinity. It is because it affords excellent opportunity for the surgical treatment of gynecological cases and for the successful management of deformities and diseases of the bones, joints and the spine.

It is quite probable that the number of operations connected with these classes of surgical disease performed since the opening of the hospital has been larger, in proportion to the number of patients under consideration, than is usual in hospitals elsewhere of equal size.

The Committee think that, if it were possible, it would be now a useful and desirable thing to provide a department for the treatment of diseases of the eye in young children. A training school for nurses has been instituted, with five pupils. One hundred and ninety-five patients have been visited at their homes by the medical officers of the dispensary.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 14, 1889.

Cities.	Estimated Population for 1889.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,571,558	640	206	13.12	20.96	2.88	1 12	6.08
Philadelphia	1,040,245	366	118	14 31	6.75	.27	2.97	6.75
Chicago	830,000	—	—	—	—	—	—	—
Brooklyn	814,505	—	—	—	—	—	—	—
Baltimore	500,343	158	59	11.97	13.86	—	2 52	5.76
St. Louis	450,000	—	—	—	—	—	—	—
Boston	413,567	153	41	16 25	13.65	1.30	—	7.15
New Orleans	250,000	—	—	—	—	—	—	—
Cincinnati	225,000	110	—	9.09	19.11	—	—	7.28
Washington	225,000	96	28	—	—	—	—	—
Pittsburgh	230,000	—	—	—	—	—	—	—
Milwaukee	215,000	—	—	—	—	—	—	—
New Haven	82,000	—	—	—	—	—	—	—
Nashville	65,153	13	4	15.38	—	—	7.69	—
Charleston	60,145	36	9	16.68	—	8.34	5.56	—
Portland	40,000	12	5	25.00	—	8.33	—	—
Worcester	78,292	22	6	22.75	13.65	4.55	—	13.65
Lowell	71,518	42	15	28.56	7.14	7.14	4.76	16.66
Cambridge	65,552	19	4	21.04	21.04	5.26	—	15.78
Fall River	62,647	16	5	—	25.00	—	—	—
Lynn	53,334	12	0	8.33	8.33	—	—	8.33
Springfield	40,731	13	4	15.38	15 38	—	—	15.38
Lawrence	40,619	19	9	31.56	5.26	—	5.26	26.30
New Bedford	37,253	9	4	—	22.22	—	—	—
Holyoke	35,872	—	—	—	—	—	—	—
Somerville	34,418	—	—	—	—	—	—	—
Salem	29,011	14	1	7.14	—	—	7.14	—
Brockton	28,813	—	—	—	—	—	—	—
Chelsea	28,167	6	1	—	33.33	—	—	—
Haverhill	26,058	9	2	11.11	22.22	—	—	11.11
Taunton	25,170	7	0	14.28	—	—	—	14.28
Gloucester	24,265	1	0	—	—	—	—	—
Newton	21,553	—	—	—	—	—	—	—
Malden	19,774	5	1	20.00	20.00	20.00	—	—
Fitchburg	17,534	6	2	—	—	—	—	—
Waltham	17,332	2	0	—	—	—	—	—
Pittsfield	15,502	5	2	20.00	20.00	—	—	20.00
Attleborough	15,425	—	—	—	—	—	—	—
Newburyport	13,875	6	3	—	33 33	—	—	—
Quincy	13,728	5	1	20.00	20.00	—	—	20.00

Deaths reported 1,812: under five years of age 530; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 237, acute lung diseases 251, consumption, 246, diphtheria and croup 121, typhoid fever 33, diarrhœal diseases 33, scarlet fever 14, whooping-cough 12, measles 8, cerebro-spinal meningitis 7, erysipelas 2.

From scarlet fever, Philadelphia 8, New York 5, Boston 1. From whooping-cough, New York 5, Baltimore 4, Washington, Nashville and Portland 1 each. From measles, Philadelphia 5, New York 3. From malarial fevers, New York, Philadelphia, and Baltimore 2 each. Charleston 1. From cerebro-spinal meningitis, New York 3, Cincinnati 2, Philadelphia and Worcester 1 each.

The meteorological record for the week ending Dec. 14, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps: –

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.		Velocity of Wind.		State of Weather.[1]		Rainfall.	
Saturday, Dec. 14, 1889.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 8	30.21	43.0	52.0	34.0	82	83	82.0	S.W.	S.E.	3	9	C.	R.	1.00	T.
Monday,... 9	30.12	55.0	62.0	48.0	94	69	82.0	S.W.	S.W.	18	8	R.	C.	14.30	.25
Tuesday,..10	30.36	42.0	45.0	39.0	68	85	76.0	N.W.	E.	13	16	C.	O.		.0
Wednes...11	29.88	48.0	54.0	42.0	100	58	79.0	S.E.	W.	11	21	F.	O.	3.00	.22
Thursday,.12	30.07	42.0	47.0	38.0	66	43	54.0	W.	W.	15	7	C.	O.		.0
Friday,....13	29.95	44.0	53.0	34.0	65	50	58.0	S.W.	W.	14	17	O.	F.	0.10	T.
Saturday,.14	30.22	22.0	24.	19.9	61	93	77.0	N.W.	N.	8	15	O.	N.	6.45	0.20[2]
Mean for Week.	30.11		48.0	36.0			72.0								.67[3]

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. [2] Snow. [3] Total for week.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 14, 1889, TO DECEMBER 20, 1889.

First Lieutenant R. R. BALL, assistant surgeon, is relieved from temporary duty at Fort Sill, I. T., and will return to his proper station, Fort Riley, Kansas. Headquarters Department of the Missouri, Fort Leavenworth, Kansas, December 12, 1889. Special Orders, No. 182.

By direction of the Secretary of War, Lieutenant-Colonel CHARLES T. ALEXANDER, surgeon, will be relieved from duty as medial director Department of the Columbia, on receipt of this order at the headquarters of that department, and will report in person to the commanding general Division of the Atlantic, for the purpose of preparing for, and becoming familiar with the duties of attending surgeon in New York City. He will also, upon his arrival in New York assume the duties of examiner of recruits in that city. Major WILLIAM E. WATERS, surgeon, will take temporary charge of the office of medical director Department of the Columbia, upon the relief of Lieutenant-Colonel Alexander, and perform the duties pertaining thereto. S. O. 291, A. G. O., Washington, December 14, 1889.

With the approval of the Secretary of War, the leave of absence granted Captain C. N. B. MACAULEY, assistant surgeon, in S. O. 166, November 8th, Department Missouri, is extended one month. Par. 10, S. O. 294, A. G. O., December 18, 1889.

Leave of absence for one month is granted Captain GEORGE MCCREERY, assistant surgeon, U. S. Navy (Fort Warren Mass.), to take effect upon the arrival at that post for temporary duty of Captain SAMUEL Q. ROBINSON, assistant surgeon. Par. 6, S. O. 290, Division Atlantic, December 18, 1889.

Captain SAMUEL Q. ROBINSON, assistant surgeon U. S. Army (Fort Hamilton, N. Y. H.), will proceed without delay to Fort Warren, Mass., and report to the post commander for temporary duty. Par. 5, S. O. 289, Division Atlantic, December 18, 1889.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING DECEMBER 21, 1889.

KITE, I. W., assistant surgeon. Promoted to be a passed assistant surgeon, U. S. N.

STONE, E. P., assistant surgeon. Promoted to be a passed assistant surgeon, U. S. N.

MORTON, O. D., assistant surgeon. Promoted to be a passed assistant surgeon, U. S. N.

HENRY, CHARLES P., assistant surgeon. Placed on the Retired List, U. S. N.

PICKERELL, GEORGE M. C., assistant surgeon. Ordered to Navy Yard, Washington, D. C., for temporary duty.

BOOKS AND PAMPHLETS RECEIVED.

The Influence of the Cold Bath Treatment on the Hospital Mortality of Typhoid. By F. W. E. Hare, M.B., M.R.C.S.E. Reprint. 1889.

Report of the Surgeon-General of the Army to the Secretary of War, for the Fiscal year ending June 30, 1889. Washington Government Printing Office. 1889.

Clinical Lectures on Some Obscure Diseases of the Abdomen. Delivered at the London Hospital, by Samuel Fenwick, M.D., F.R.C.P., etc. London: J. & A. Churchill. 1889.

Annual Report of the Supervising Surgeon-General of the Marine Hospital Service of the United States, for the Fiscal year 1889. Washington Government Printing Office. 1889.

Saunders' Question-Compends, No. 5. Essentials of Obstetrics, arranged in the form of Questions and Answers. Prepared especially for Students of Medicine. By William Easterly Ashton, M.D. Philadelphia: W. B. Saunders. 1890.

A Case of Tuberculosis Papillomatosa Cutis, with remarks on the relation of papilloma to syphilis, lupus, etc. Illustrated with chromo-lithographic plates. By Prince A. Morrow, A.M., M.D. New York: William Wood & Co. Reprint. 1888.

Injuries and Diseases of Nerves, and their Surgical Treatment. By Anthony A. Bowlby, F.R.C.S. Surgical Registrar and Demonstrator of Practical Surgery, etc., at St Bartholomew's Hospital, etc. Philadelphia: P. Blakiston, Son and Co. 1890.

The Physician's Leisure Library. Diabetes Mellitus and Insipidus. By Andrew H. Smith, M.D. The Physician's Leisure Library. Education and Culture as Relates to the Health and Diseases of Women. By Alex. J. C. Skene, M.D. Detroit, Mich.: George S. Davis. 1889.

Essay on Medical Pneumatology, a Physiological, Clinical and Therapeutic Investigation of the Gases. By J. N. Demarquay, Surgeon to the Municipal Hospital, Paris, and of the Council of State, etc. Translated with notes, additions and omissions. By Samuel S. Wallian, A.M., M.D. Illustrated with fine wood engravings. Philadelphia and London: F. A. Davis. 1889.

A Guide to the Diseases of Children. By James Frederic Goodhart, M.D., F.R.C.P. Physician to Guy's Hospital, and lecturer on Pathology in its Medical School, etc. Rearranged, revised and edited, by Louis Starr, M.D, Clinical Professor of Diseases of Children in the hospital of the University of Pennsylvania, etc. Second American, from the third English edition, with numerous formulæ and illustrations. Philadelphia: P. Blakiston, Son & Co. 1889.

A Handbook of Pathological Anatomy and Histology, with an introductory section on Post-mortem Examinations, and the method of preserving and examining diseased tissues. By Francis Delafield, M.D., Professor of Pathology and Practical Medicine, College of Physicians and Surgeons, New York, and T. Mitchell Prudden, M.D., Director of the Laboratory of the Alumni Association of the College of Physicians and Surgeons, New York. Second edition, illustrated by 22 wood engravings printed in black and colors. New York: Wm. Wood & Co. 1889.